# PURCHASING

# APRIL, 1940 . . . . . CONTENTS

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AMERICAN CHAIN & CABLE COMPANY, Inc.

# Pick Public Purchasers for COURAGE

Ohio purchasing men, all members of the N.A.P.A., have been named as an advisory body to the Citizens Tax League in its current survey of public purchasing in that state. It is significant that the inquiry is to embrace a study of personnel as well as of methods and performance.

The factor of personnel may well provide the answer to most public buying problems where centralized purchasing is already provided for in the statutes and in governmental organization. The basic principles of buying are well known or readily available, and there are hundreds of successful purchasing departments in industry and government to serve as models for



efficient procedure. Most governmental buying regulations, while more restrictive than in private industry, provide the machinery for doing an effective buying job in the public interest, as many a public purchasing department is notably demonstrating.

But system alone is not enough. Good purchasing departments are built around good men. Within the framework of any statute, working honestly and in strict conformance with the law, mediocre performance and wasteful spending is quite possible if courage is wanting. And courage in this instance means an appreciation of the buying function as a public service, and not as a job. Public buyers discouraged with their status often have only themselves to blame.

Such a simple device as combining departmental requirements for common items like coal and brick makes headlines in one of our largest cities this month, and the resultant savings, in impressive figures, are proudly broadcast—additional evidence of the golden opportunities in public buying. The tragic feature is that these same opportunities have always existed, as any man with intelligence and knowledge of the job must have known, and previous performance is sometimes hard to explain.

The time to initiate those savings and to realize one of the greatest means of relief to a tax-burdened citizenry is **before** investigations become necessary. The public buyer with courage may have to do a lot of educating, and he may have to fight, but aside from the satisfaction of good performance he will find himself with a bigger job, and a more secure job.

Stuart & Neuritz



# How to Save Money on Steel

Reduced shop labor costs . . . Elimination of heat treating failures, costly testing and re-treating...less clerical expense—these are money-saving advantages regularly reported by manufacturers who standardize on Ryerson Certified Steels.

Steel buyers know exactly what they're getting when they order from Ryerson. These uniform high quality steels are made to close range specifications. They are free from hard or soft spots and can be depended on for uniform working and forming qualities. Spoilage, breakage, and irregularities are practically eliminated.

A special quality control plan on Alloy Steels assures uniform heat treatment response. Entire heats are selected and complete chemical and physical properties, and exact heat treating characteristics are sent with every order to guide the heat treater in securing dependable, uniform results. He does not have to test. He takes no chances. Spoilage and re-treating are eliminated and a sound, dependable job is assured.

Ryerson Certified Steels stocks are complete and diversified. You can save time, trouble and money by concentrating all steel requirements with this one dependable source of supply. Everything from the heaviest structural to the smallest rivet—from mechanical tubing to welding rod is carried in stock for Immediate Shipment. If you do not have the current Ryerson Stock List we will gladly send you a copy. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis. Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

RYERSON PRODUCTS Include: Beams, Structurals, Channels, Angles, Tees, Zees, Hot Rolled Bars, Bands and Hoops, Floor Plate, Plates (over 15 kinds), Sheets (over 25 kinds), Alloy and Tool Steels, Heat Treated Alloy Bars, Stainless Steel, Cold Finished Shafting, Strip Steel, Flat Wire, Mechanical Tubing, Boiler Tubes and Fittings, Welding Rod, Rivets, Bolts, Nuts, Washers, Concrete Reinforcing, Babbit Metal and Solder. Write for Stock List.



RYERSON

# How Pet White House Plans Were BLITZKRIEGED!

By HARTLEY W. BARCLAY

Centralized Purchasing Plan Wrecked — 400 Purchasers Fired!

THE federal system of purchasing is being subjected to complete overhauling, the first effect of which was a personnel blitzkrieg that lopped 400 trained purchasers and aides from the service. The dismissals amounted to more than 50% of the entire personnel purchasing emergency relief needs in the

procurement division.

Far from centralizing purchasing functions of the New Deal, the program now being carried out by Harold N. Graves, Special Assistant to Treasury Secretary Henry Morgenthau, reaches to the other extreme and freezes the grip of bureaucracy upon federal buying in direct contravention of President Franklin D. Roosevelt's order for closer coordination. President Roosevelt was personally responsible for introducing the centralized buying plan in 1933. It is said that some action may be expected from the White House to halt a large proportion of this wholesale firing.

Under Graves' direction, purchasing divisions of all other bureaus and agencies are left undisturbed—by the simple expedient of giving each of those setups the function of buying in amounts of less than \$100.

## How It Works

Since last July an investigation of Government purchasing methods and procedure has been conducted under the direction of Clifton Mack. During this period the work of 712 employees in the procurement division has been examined. The final report is not available for publication.

It has been pointed out by a member of the Treasury Department that the total cost of educating the average employee may be estimated at up to \$10,000 per person. There appear to be many individuals in Washington who believe that it is unwise to drop 400 experienced employees after they have been trained to function in

purchasing activities.

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The excuse given for lopping off the majority of the trained employees is that by eliminating the purchase of all orders below \$100 in value, the procurement division can function with a much smaller staff, since 85% of the volume of work has been represented by these small orders. The procurement division retains purchasing power since in the aggregate, the remaining 15% of the orders represents 94% of the dollar volume of the transactions. Therefore by concentrating on the 94% of the dollar volume, with the smaller quota of office work, it is explained that there will be no need for the entire staff employed heretofore. Not all of the 712 are to be dismissed.

The new plan also involves transferring 130 of the temporary employees with the best separation ratings to civil service, then permanently employing them in the procurement division after July 1. In addition, about 182 will be retained to permanently function on

emergency relief procurement.



The separation ratings followed as a guide to discharges are determined by the use of an involved formula which is set up in the following way:

On a theoretical scale of 100 points Efficiency ratings determine 55 points

Length of service amounts to up to 15 points Number of dependents in the employee's family determines up to 25 points.

Over and above these points, an added 10 points is given to World War Veterans.

The point system is not used as a basis for a general horizontal cut in employment. Reductions are made by calculating which sections of the work shall receive

# What is Happening in Washington

- 1. Present decisions appear to have been made upon a legalistic basis rather than upon a background of familiarity with purchasing procedure.
- 2. The volume of purchases involved, contrary to expectations of many—does not concern a dollar volume substantially larger than those encountered in large industrial corporations and yet the personnel problem is more acute than that encountered in any industrial group.
- 3. The problem has been complicated by politics. Political pressure may prevent efficiency in governmental buying.
- 4. Salary ratings are low and out of proportion to those found in some other governmental departments. Minor employees in the N.L.R.B. for example, receive salaries 200% larger than those paid to responsible purchasing executives in the Procurement Division. By comparison, salaries in industry are from 75% to 300% higher for corresponding responsibility in minor purchasing positions.
- 5. The Federal purchasing studies have not taken sufficient serious cognizance of the efficient methods worked out by municipal and state purchasing departments. They could afford to study such examples as that of Russell Forbes of New York City, who has been available for conference.
- 6. No recognition has been afforded to the work of the N.A.P.A. and in this failure—the natural result has followed. Courses of instruction in scientific purchasing could be introduced—based on N.A.P.A. research—with profitable results to tax payers.
- 7. While President Roosevelt has provided the inspiration of centralized purchasing as an idea, he has failed to provide the necessary follow through of the "Know How." This could be easily remedied by bringing in proper consulting advice which could be readily obtained.

certain quotas of reductions in personnel, then reductions are made based upon the comparative separation ratings in each section. This appears to be a very fair basis of determination.

## More Work Coming

The dismissals appear to be poorly timed because the work of the Procurement Division is expected to sharply increase during the coming summer. On July 1, the division will take over all procurement purchasing of all orders over \$100 for all government departments located in Washington, D. C., except that of Army, Navy, Marine Corps and the Works Progress Administration. This new burden is expected to involve handling purchases of an additional 63 million dollars as compared with the \$14,000,000 now handled on regular orders plus approximately \$60,000,000 handled on general schedules on term contracts negotiated by the procurement division. Thus this first new addition will approximately double the work of the division, Later on it is expected that an additional \$63,000,000 volume of purchasing will be assumed

when the division takes over the field purchases of all other government departments, except War, Navy, Marine Corps. and W.P.A.

In general, the effects of this sudden order may be interpreted as follows: The decision will promote duplication of purchasing functions by protecting a dual system of purchasing. It will, however, take away the executive responsibility for policy decisions from other governmental purchasing departments. It will not result in reducing operating personnel, thus will not produce desired savings in other purchasing departments. Thus there appear to be many substantial disadvantages to the plan which are considered by many to outweigh the theoretical advantages.

The argument is advanced that these 400 employees can readily be dismissed because they are temporary employees and were primarily concerned with emergency relief purchasing. Since this volume of purchasing is declining, it is said, and since emergency relief appropriations are to be reduced, it is alleged that there must be dismissals of temporary relief procurement employees. This reason, however, does not appear to be a completely valid one, when it is borne in mind that the transfer of 130 other temporary employees to civil service is contemplated. If transfers from relief employment to civil service status may be arranged so conveniently, what reason is there for not transferring the entire lot of employees, so that a well drilled and efficient staff will be able to take over the new purchasing functions when the load of work is increased almost 100% on July 1?

This question becomes even more important than might appear on the surface, when it is realized that there are few enough experienced purchasing people among the unemployed relief groups. And the experience of the U. S. Civil Service proves that experienced and capable purchasing personnel cannot be obtained overnight.

The last examinations of applicants for purchasing positions under Civil Service were held on November 22, 1937. At that time the following examinations were conducted:

Assistant Junior Purchasing Officer, salary \$3,200 per year 2,600 " " 2,000 " "

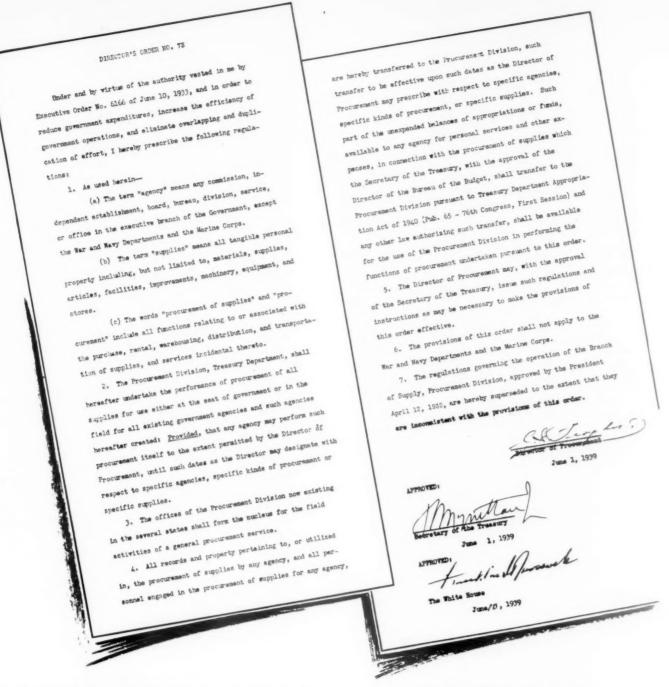
Competitors under these tests were rated according to the following relative weights:

1. Mental Test Weight 30 2. Experience "70

All purchasing employees must be U. S. citizens, and for positions in Washington must show legal residence for at least one year preceding the closing date for receipt of applications.

The experience requirements required are as follows:

Experience—Purchasing Officer and Assistant Purchasing Officer—Applicants for the position of Purchasing Officer must have had at least 5 years, and for the position of Assistant Purchasing Officer at least 3 years, of progressively responsible experience as purchasing and procurement officer or agent for a large organization requiring large quantities and an extensive variety of general supplies, such as office supplies, furniture, and equipment, maintenance and operating materials, tools, automotive equipment, hardware, and miscellaneous supplies. It is desirable that for some vacancies eligibles be also experienced in the procurement of surgical and chemical supplies, and subsistence supplies. This entire experience must have included the original preparation of specifications for the purchase of materials of the sort specified, the invitation of bids, the classification of bids received, and active participation in, or administrative action in connection with,



the awarding of contracts for supplies. The type of experience necessary to qualify might be acquired with a large railroad, or other public utility, with a large industrial or commercial establishment, with a branch of the Federal Government, or the government of a State or large municipality.

large municipality.

Junior Purchasing Officer—Applicants for the position of Junior Purchasing Officer must have had not less than 3 years of progressive experience in the purchasing department of an organization such as is described under the requirements for Purchasing Officer and Assistant Purchasing Officer, above. This experience must have included the writing of specifications and invitations to bid, under supervision or direction; analysis of, and recommendations regarding, acceptance of bids for consideration by the purchasing officer or department, and the performance of other responsible clerical work in connection with the purchasing department of an organization such as has been described above.

Nonqualifying experience—Experience as buyer of specialized merchandise for department stores or jobbing houses which did not include the wide variety of materials indicated; as manager of a mercantile establishment without responsibility for the purchase of the required classes of materials and/or equipment by competitive bid-

## Last June, F.D.R. ordered the centralization of federal purchases

ding and contract; or any other form of purchasing experience which did not include the prescribed variety of materials and the competitive bidding and contract method of purchasing will not be accepted as qualifying for any of these positions.

Age—They must not have reached their fifty-third birthday on the date of the close of receipt of applications specified in (b) at the head of this announcement. This age limit does not apply to persons granted preference because of military or naval service, except that such applicants must not have reached the retirement age.

Since Civil Service has introduced these rigid requirements it certainly seems logical to expect that the trained personnel in any government department would be retained wherever possible. Not the least important is the question of the opportunity of old employees to be transferred from other departments to the Procurement Division when need for their skilled services arises. Since, however, the greater per-

centage of the volume of work is to be thrown back to the individual purchasing departments and centralization will primarily affect policies of procurement and not the handling of the 85% of the volume of orders, it appears unlikely that there will be any large transfer of purchasing personnel from other departments to the procurement division and, therefore, the latter will assume new burdens of work next summer without adequate skilled personnel if the 400 employees are finally severed from the payroll and the anticipated new burden of work is taken over on July 1.

Careful reading of the Director's Order No. 73 does not provide any substantial authority for justifying the present wholesale slashing of personnel, in the opinion of many. In fact, some commentators report that they regard Director's Order No. 73 as complete authority for centralizing all procurement, as far as possible,

contrary to the present plan.

The actual order is shown herewith. Note particu-

larly the paragraph:

2. The Procurement Division, Treasury Department, shall hereafter undertake the performance of procurement of all supplies for use either at the seat of government or in the field for all existing government agencies and such agencies hereafter created: Provided, that any agency may perform such procurement itself to the extent permitted by the Director of Procurement, until such dates as the Director may designate with respect to specific agencies, specific kinds of procurement or specific supplies.

Since the plan for centralized purchasing originated with President Franklin D. Roosevelt, and received its initial impetus long before the Reorganization Bill was passed, it is expected that this situation will receive the personal attention of the Chief Executive of the nation. Whether final plans will be permitted to remain as they are at present, could not be determined. However, competent outside observers report that they expect a change in present policies.

The existing plan is well described in the following

Executive order, dated February 24, 1940.

TO THE HEADS OF EXECUTIVE DEPARTMENTS, INDEPENDENT ESTABLISHMENTS AND AGENCIES,

Pursuant to Executive Order No. 6166, approved June 10, 1933, the Director of Procurement of the Treasury Department has proposed a change in the method of procurement of supplies, materials and equipment for the Government's non-military executive establishment, in respect to items purchased in the District of Columbia. The Treasury Department has submitted this proposal to the Bureau of the Budget for review because the Bureau has the statutory responsibility of approving the transfer of funds concomitant to the transfer of personnel which may be requested in connection with the partial centralization of procurement which is embodied in the plan. The suggestion is that the change be effective as of July 1, 1940. The proposed program is as follows:

sed program is as follows:

1. All transactions involving the purchase of items listed in the General Schedule of Supplies as available under term contracts will be handled by the departments, establishments, and agencies themselves, without reference to the Procurement Division of the Treasury Department. Similar procedure will be followed with respect to commodities to be purchased from the Government Printing Office, items available under term contracts negotiated by the agencies themselves or by the Post Office Department or other Government agencontracts negotiated by the agencies themselves or by the Post Office Department or other Government agencies, and articles obtainable from the Federal Prisons Industries or other Government sources. Blind-made products will be obtained from agencies indicated by the Procurement Division of the Treasury Department.

2. Purchases in the open market, which involve an expenditure estimated not to exceed \$100, will be effected by the departments, establishments, and agencies themselves, in accordance with the requirements of section 3709 of the Revised Statutes as modified by law with 3709 of the Revised Statutes as modified by law with

respect to specific agencies.

3. Purchases in the open market which involve an expenditure estimated to exceed \$100, regardless of any

legislative waiver of section 3709 which may be applicable in any instance to purchases in amounts exceeding the limitations above fixed, will be referred to the Pro-curement Division of the Treasury Department for execution: Provided, however, that in the case of emergency items, perishable commodities, or of specialized or technical supplies, materials or equipment peculiar to the needs of a particular agency, purchases may be made without reference to the Procurement Division. The Director of Procurement may require periodic reports in respect to purchases made under this exception.

Agencies will not be required to pay a surcharge with respect to open market transactions handled by the Procurement Division under this section.

4. Purchases of commodities available from the warehouse stocks maintained by the Procurement Division in the District of Columbia will continue to be made from

such stocks when practicable.

5. With respect to the two classes of open market transactions referred to under sections 2 and 3, the estimated cost, rather than the actual expenditure, shall establish the classification for purposes of procedure, and such classification will not be affected by any variation between the disclosed as between the estimated

and such classification will not be affected by any variation subsequently disclosed as between the estimated and the actual cost of the transaction.

6. The program herein proposed shall not be interpreted to prohibit the submission of a purchase authority to the Procurement Division of the Treasury Department for execution, regardless of the amount or nature of the transaction involved in any instance in which of the transaction involved, in any instance in which such action would be of advantage to the Government. 7. The procedure outlined herein will apply only to procurement, by the non-military executive establishment, effected in the District of Columbia, whether for use in the District of Columbia or in the field. At a later date further consideration may be given to pro-curement effected in the field, but it is not deemed ad-visable at this time to extend the scope of the proposal beyond transactions conducted in the District of Colum-

bia.

8. The terms of this proposal, insofar as they change the procedure now in effect, will not apply to transactions conducted under any Emergency Relief Act.

Consideration of the Treasury's proposal, by the Bureau of the Budget, would be materially facilitated if the information outlined in the attached questionnaire were at hand, in respect to each agency concerned. Accordingly, it will be greatly appreciated if you will submit the data outlined as soon as possible and in no event later than March 18, 1940. Please note that the first five items of the questionnaire relate to the six-month period ending June 30, 1939, and the sixth item pertains to the month of January, 1940. Transactions under any Emergency Relief

Act should be excluded If you desire to submit any explanatory comments along with the questionnaire returns, or any general comments relative to the proposal outlined herein, these will be welcomed by the Bureau of the Budget.

HAROLD E. SMITH, Director

Bureau of the Budget

## Benefits of Centralization

The governmental centralized purchasing program has been looked upon as being one of the most useful and practical steps taken by President Roosevelt. was not expected, however, that the program would be literally scuttled simply on the basis of a survey of While the small order problem may be, small orders. indeed, a serious one, there is no doubt that a large percentage of these small orders could be handled as routine work, with resulting savings to supplies, in sales expense in contacting governmental departments and in savings to the government by eliminating duplicating and overlapping functions. Now, however, by simply splitting the volume of purchasing and shifting the large purchases to the Procurement Division, and leaving the small purchases to the original departmental purchasing groups, all of the inefficiencies of the old methods are securely perpetuated and maximum bene-Undoubtedly, many of fits of centralization are lost. the small orders of value less than \$100 can be grouped 'Continued on page 118



# **PIONEERING**

## FOR BETTER LIVING

By PHILIP D. REED

CHAIRMAN OF BOARD, GENERAL ELECTRIC CO.

PURCHASING executives will welcome the forthcoming series of articles, which will show how American Industry holds great opportunities for progress. This introductory article will be followed next month by an exclusive story prepared by Alfred P. Sloan, Jr., Chairman of Board, General Motors Corp.

While it can truthfully be said that this country has no more physical frontiers to conquer, it should be remembered that that was true long before we entered the phase of industrial development which has lifted the standard of living in this country far above that of any other country in the world. The frontiers which were conquered to achieve this result were the frontiers behind which lie new industries, new jobs, new tools by which the productive capacity of the workman is greatly increased, and new methods, materials and designs by which all products, new and old, are made better and cheaper.

We have learned a great deal in the last generation. We have seen many new industries born and, in the

# AMERICA'S INDUSTRIAL FRONTIERS



course of a few years, develop so rapidly as to become major factors in our economic life. Of all the things we have seen and learned, nothing is more startingly clear than that the future holds glorious and unlimited opportunities for further and rapid progress.

## Progress Is Inevitable

With the ever increasing number of minds and dollars employed in research work, it is simply inevitable that the vast reservoir of unknown materials, physical and chemical laws, processes and products will, year by year, yield its secrets in increasing numbers. New needs and new industries to supply them will be an important factor and equally important, in my judgment, will be development in the direction of improving known products and learning how to make and sell them ever more cheaply. Pioneering for better living does not stop in the research laboratory. The high living standards which are so general in America today are the result of providing ever better products for an ever increasing number of people. Every step in reducing costs of production and in improving methods of manufacture and distribution makes possible a wider distribution of the good things of life. The more who can afford to buy new products, the more are employed making them. And all who contribute to this process—scientists, engineers, workmen, salesmen—are helping to raise the standards of living in America.

## **Defeat Defeatism**

It is not surprising that we all too frequently find an attitude of defeatism in this country and elsewhere. Even a frontiersman when beset by illness must pause in his progress and concentrate all his faculties on ridding his body of the infection. Our national economic body has been seriously ill and because we have been concentrating our thoughts and attention upon curing ourselves rather than going forward, our perspective is warped. What we need is to stand away

from ourselves a little and take a long, refreshing look at a far horizon. How much, how very much, can be seen there to stimulate and inspire a people weary with the troubles of the day is confidently told by our workers in science, our men of vision and by our experience of the past two generations.

How great the progress of the last two decades has been can be traced in the histories of hundreds of the products we use each day. In the electrical industry alone we can think of dozens of products that have been drastically reduced in price during these two decades, and as a result, the number in use has increased by the hundreds of thousands each year.

Today the average price of a lamp bulb is 30% of its 1921 price—the number sold has increased three-fold

The cost of the average electric refrigerator has been cut in half since 1927—and the number sold has increased nearly fivefold.

Electricity itself—household consumption has increased sixfold since 1920; the cost has been cut almost in half. The average cost today is four cents a kilowatt hour, in contrast to almost eight cents twenty years ago.

Ever since 1929 the average cost of electric washing machines has been reduced from \$113 to \$68. Nine hundred and fifty-six thousand were sold in 1929—one million three hundred and twenty thousand in 1939.

Electric clocks, fans, irons, vacuum cleaners, all are being sold at a fraction of their cost when first introduced, and as a result more millions of people are able to enjoy them. And these products have been vastly improved in quality, cost less to operate, and last longer than their predecessors. On every front, the philosophy of "More Goods for More People at Less Cost" is resulting in higher living standards for the American people.

# How the BAUSCH & LOMB OPTICAL COMPANY BUYS

By STUART F. HEINRITZ





C. A. KIRCHMAIER

Purchasing Agent

Bausch & Lomb Optical Company

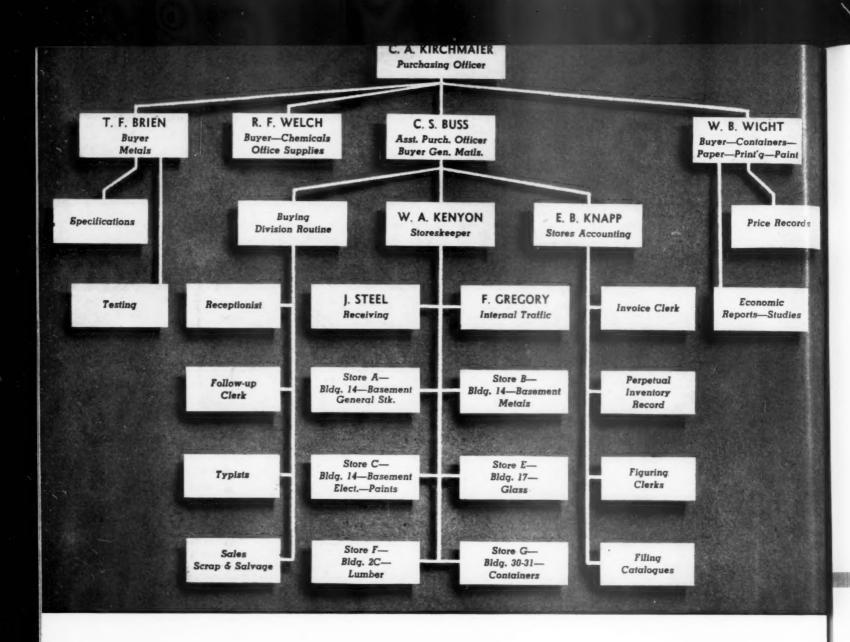
SPAN of eighty-seven years of leadership in an exacting technical field is the proud history of the Bausch & Lomb Optical Company, Rochester, N. Y., an industry that started as a one-man retail shop in 1853 and has grown to a large modern plant with more than 4,000 employees, serving a world market. From the first product, spectacles, the scope of this business has broadened to embrace a complete line of ophthalmic products—lenses, frames and mountings, eye-examining instruments and lens grinding machinery; microscopes, photomicrographic and spectrographic equipment, balopticons, projection and photographic lenses, binoculars, colorimeters, refractometers, microtomes and other scientific instruments too numerous to mention, used in scores of industrial fields and by a widely diversified group of professional men, scientists and technicians.

As a manufacturing enterprise, this industry is definitely in the field of large-scale production; its 250,000th microscope was produced four years ago. To attain its present size and position, it has been constantly necessary to develop new markets and to meet competition by economical operation. Yet from the nature of the business, quality and precision far beyond the average requirement have been primary considerations.

The combination of these factors places a particular responsibility on those who are charged with the procurement of materials, and it is not surprising that the purchasing organization has long been recognized as an outstanding example of efficiency and progressive methods

## Comprehensive Organization

The procurement function in this company is broadly interpreted to include the purchase of materials, the control of raw material stores, and the receiving, storing and issue of these materials up to the time when they go into production. The Purchasing Agent heads a compact department of 40 persons, of whom 20 are directly concerned with buying and materials control, 15 in the operation of the storerooms, and 5 in receiv-



ing. The Purchasing Agent is not only an administrative officer, directing the policies and operation of the department, but shares the actual work of buying with the Assistant Purchasing Agent and three buyers, each of whom is responsible for a particular group of related commodity items.

The material control section maintains the Rand record, a most complete system which includes the physical record of purchases, disbursements and inventories, as well as the financial controls for charging out materials to the proper departments and determining material costs (standard and actual) for the benefit of the cost accountants, and keeps an accurate bookkeeping and inventory balance at all times.

The stores section, besides the normal activities incident to the orderly and expeditious handling of materials, does some production work when this procedure seems more advantageous than procurement from an outside source.

This general outline suggests the close coordination of purchasing with the other phases of management. The whole procedure is geared to mesh smoothly with operations and controls in other departments. That principle applies to policies as well as to methods. The Purchasing Agent is a member of the important Standards Supervisory Committee, which aids notably in maintaining the quality of materials and products by coordinating the views of purchasing, engineering, laboratory and operating depart-

ments. Regarding purchases and material control, the Purchasing Agent is directly responsible to management.

### Personnel

C. A. Kirchmaier, Purchasing Agent, has been with Bausch & Lomb for more than fifteen years. He is a graduate of the University of Rochester, with graduate work in mineralogy, and came naturally into the company where his father had spent a lifetime, exemplifying a tradition of lovalty and continuity of service that is notably present throughout the entire organization. He started in chemical engineering and production work in the glass plant, thereby acquiring a valuable background of familiarity with operations and the application of materials. Assigned to purchasing work, he advanced rapidly to the position of Assistant Purchasing Agent, and seven years ago became head of the department. His apprenticeship in buying was under the guidance of the late E. A. Scheibe, widely known as a pioneer and leader in association work, a vice president of the National Association of Purchasing Agents in its formative years, and chairman of the Educational Committee which developed the first vocational courses in purchasing and introduced them through the Y. M. C. A. schools. Kirchmaier has carried on this keen interest in association affairs, and is an active member of the Rochester group.

Clarence S. Buss, Assistant Purchasing Agent, is a graduate of Rochester Business Institute, and has been in the purchasing department twenty-four years.

**Thomas Brien.** Buyer, is a graduate engineer from Villanova, who worked on standards in the engineering department of the company before being transferred to purchasing three years ago.

**Richard Welch.** Buyer, has ten years of experience in the department, coming up to his present position through various assignments.

Wilson Wight, Buyer, is a graduate of Syracuse University and the Harvard Graduate School of Business Administration, where he was among the first students in Prof. H. T. Lewis' purchasing course, at that time unique among advanced college curricula. His interest in the subject is attested by the fact that even before he was personally engaged in purchasing work he organized and taught a purchasing class at Rochester Business Institute. He joined the department five years ago, and recently conducted the highly successful purchasing course at the University of Rochester, sponsored by the Rochester Association.

W. A. Kenyon, in charge of stores and receiving, is another University of Rochester man. His responsibility covers the various stores divisions—metal, glass, shop, and general—seeing to it that stocks of all essential materials and supplies are adequately maintained and are not permitted to run out.

## Standards and Specifications

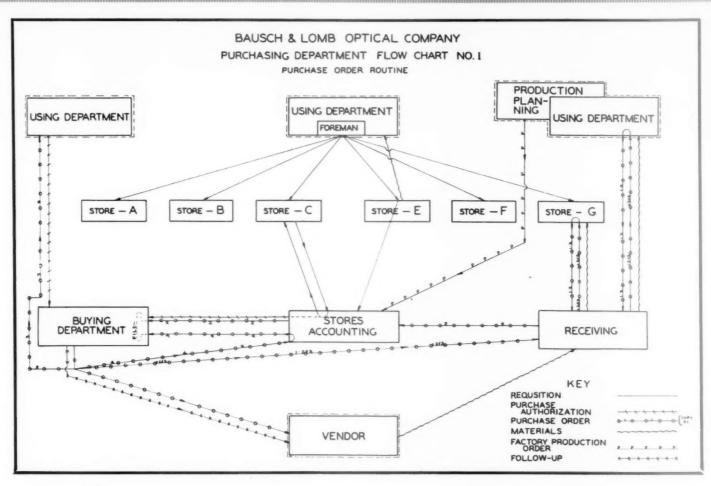
Standardization of purchased materials is an important part of departmental policy, and has been extended to a considerable proportion of the company's

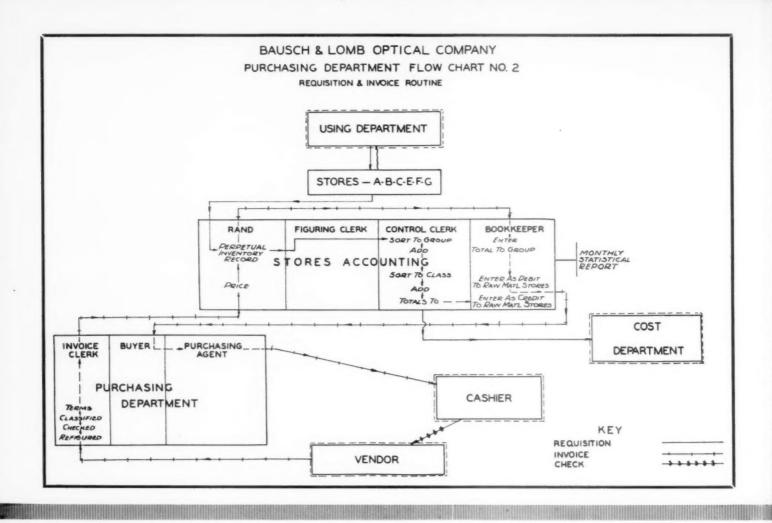
requirements, with constant progress toward still more complete control. The program was started several years ago, when it became apparent that an enormous number of items were building up on the inventory. Prior to that time, materials had been specified by trade name, and although many of the items were essentially duplications, slight differences in manufacturing practice obscured this fact.

The method of simplifying the materials list can best be shown by an example. Before this program was put into effect, there were eighteen alloys and tempers of brass purchased under different trade names. These were all carefully analyzed and tested so that their physical, mechanical and chemical properties could be set up for comparison. The comparison naturally showed some overlapping, and it was then necessary to investigate each item and product involved to determine whether or not a single standard or substitute for the similar materials could be used. Actual tests were run, substituting materials which offered a combination of the desirable properties of the displaced group. The final outcome of this test was that brass requirements were cut down from eighteen alloys and tempers to only seven, which adequately covered the range of uses.

By standardizing on these seven brasses, all duplications were eliminated. However, it was more than ever necessary to hold the properties of these under close control, and the next logical step was to set up specifications to define each of the grades, a procedure which at the same time obviated the necessity of using trade names.

By a similar process, more than 150 specifications have been written to date. Two principles have been





observed throughout the program: (1) complete coordination and agreement of all interested departments, and (2) periodic revision to keep the specification up to date and in line with the company's current requirement of quality.

The success and acceptance of this program is attributable to the method of organization. Material standardization is handled by a committee consisting of (1) the Assistant Works Manager, who serves as chairman, (2) a representative of the Research Division of the Chemical Laboratory, (3) a representative of the Engineering Department, (4) the Purchasing Agent, and (5) one revolving member who is the superintendent of the division affected by the particular standardization project being carried on.

The actual work on specifications is conducted by the Material Standards Section of the Standards Department, with the cooperation of manufacturing, engineering, purchasing, chemical laboratory and other groups who might be of assistance. Special problems of standardization are taken up by a sub-committee whose members are: the head of the Material Standards Section (Chairman), and representatives of the engineering, manufacturing, and purchasing departments. This set-up has enough flexibility to handle

practically any problem satisfactorily, and utilizes the knowledge of departments and individuals who specialize in certain types of work.

The typical purchase specification is simple and concise, covering only the essential points, but defining these in clear detail. It is set up according to a

standard outline, collated and stapled with a printed cover which identifies the specification by code number and shows the date of the most recent revision. For example, Purchase Specification No. BR-1, covering free turning brass rods used in knurling operations, contains eleven sections: scope, chemical properties (analysis by maximum and minimum percentages), physical properties, cold working and annealing, work-manship and finish, tolerances, lengths, packing, marking, testing and inspection (analysis, drillings, Rockwell test, and strain test), and rejection. To this extent the specification is kept on file with suppliers or furnished with invitations to bid, so that the requirement may be thoroughly understood and quotations shall be on a comparable basis. For plant use there is an additional sheet of memoranda, telling which departments use the material, in what quantity, and for what purpose; also instructions as to frequency and quantity of purchase; method of ordering; frequency, method, and necessity of tests.

A further step in standardization has been the issuance of standard size lists for brass rod, tubing and sheet. Owing to the diversity of product, a wide range of sizes is required. For example, on free turning brass rod for high speed screw machine work, 88 sizes are listed, ranging from .04 inches in diameter with a weight of .005 pounds per lineal foot to 4.5 inches and 58.40 pounds. They are shown in progressive order. Forty-nine of them, following as closely as possible the preferred numbers system of the American Standards Association, represent the ultimate goal of standardization and must be given first preference in use. Others, marked by parantheses, are noted as

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<i>3</i> 7.2.1.		QUANTITY		8	PECIFICA	TIONS		Classification	Low Limit		On Order	Price
Figure 1 (aborequisition is the using depathe store rootstocks are downdering level, accounting	sent from ortment to m. When wn to the the stores											

undesirable for future use because of their limited application on old product. Those marked with an asterisk do not conform to the preferred numbers system, and their use is avoided on new product. Those marked with both parentheses and asterisk are neither desirable nor standard, and may be used only with the special permission of the departmental supervisor. The inauguration of this system has cut down the range of stock sizes from 900 to 500, and the program has more than paid its own way from the start.

Code numbers have been assigned to all purchased materials covered by such specifications. For some months after the plan was put into operation, brass rod was still referred to as "brass rod" by some in the organization, and not as "BR-1" or "BR-2," but that stage was duly passed, and now the code letters are used exclusively on drawings, layouts, in correspondence, and even in conversation.

## **Purchase Procedure**

The actual routine of requisition and purchase order follows in general the standard purchasing procedure common to most departments, but is worthy of note in that it consistently clears through the control system set up within the purchasing organization. The course of a transaction is graphically illustrated in the two flow charts shown herewith. Since that procedure necessarily touches a number of departments which do not belong under the jurisdiction of the Purchasing Agent, those blocks have been enclosed in dotted lines to distinguish them from the sections directly within the purchasing department.

Chart No. 1 deals with purchase order routine only, and traces four distinct routines:

1. Orders from Minimum Stock. The foreman in the using department sends a requisition (Figure 1) to the store room "E" and the material requested is delivered. The requisition is marked "filled" and is forwarded from the store room to the Stores Accounting Department, where it is deducted from the perpetual inventory record. The posting clerk discovers that the item has reached the minimum point, and accordingly fills out a purchase authorization (Figure 2), which is forwarded to the Buying Division and to the particular buyer responsible for that commodity.

After receiving an OK from the buyer and the Purchasing Agent, a formal purchase order (Figure 3) is made out from the authorization. The order is typed with an original and duplicate or acknowledgement copy, and five working copies. The original and acknowledgement are not specially designated on the chart, but are shown simply as the purchase order sent from the Buying Division to the vendor.

Working copies 1, 2 and 3, with one-time pencil carbons inserted, are forwarded to the Receiving Department, where they are held awaiting the receipt of the material.

Copy 4 is delivered to the Stores Accounting Department, where it is entered on the inventory records and then forwarded to the Purchasing Department, where it goes into the active order file until the material is received. This copy is the source from which the follow-up clerk obtains her information and on which she records dates and special notices received from the vendor.

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USE A SEPARATE SHEET FOR SKETCHES NO. SUPERSEDED EST. COST REFER TO DATE WANTED F. O. No. SIGNED CLASS APPROVED

Figure 3 (left). The purchase order, a seven-part form, follows through on the entire transaction, providing a positive control.

Figure 4 (above). Before ordering special equipment, the maintenance department checks the detailed requirement.

Copy 5 is returned to the store room or department where the order originated.

2. Orders for Special Materials or Supplies. Orders for items not regularly carried in stores are placed by requisition arising from the foreman of the using department and sent to the store room where similar items are normally kept. Having nothing with which to fill this requisition, the storekeeper forwards it to the Stores Accounting Department. The authorization and purchase order are issued as before, and the purchase order follows the same course as indicated in the previous example. The Stores Accounting Department marks the requisition with the date of order and the vendor's name, and returns it to the store room, where it is held until the material is received.

3. Special Orders, Equipment or Resale Items. Items purchased for resale and other specialties are ordered on authorizations coming direct to the Buying Division from the foreman of the using department, which include the necessary specifications as well as the quantity required. The purchase order is issued in the usual manner, and Copy 5 is immediately sent to the foreman of the department where the authorization originated.

In the purchase of equipment, the foreman of the using department must fill out a special equipment order (Figure 4), which is forwarded with the authori-

zation to the Maintenance Department, where the requirements are checked and the accounting procedure is determined. The purchase authorization is then sent to the Purchasing Department, and the order is issued.

4. Production Orders. A large percentage of the purchases arise from production orders. The Purchasing Department receives copies of all production orders placed. If the material requirements include any items not held in stock, the Stores Accounting Department withholds the release of the order to the manufacturing departments until the materials can be obtained. The purchase authorization and order are made out in the usual way.

Receiving. When merchandise is received, the receiving clerk removes copies 1, 2, and 3 of the purchase order from his files. Merchandise is checked for quantity, and the correct amount received is entered in pencil, duplicated by carbon on all sheets. When quality inspection is required, the services of inspectors are employed before the goods are delivered to stock. Otherwise, the goods and the three copies of the purchase order, all agreeing in quantity and specifications, are forwarded to the using department or store room, as the case may be.

The receiver again checks the merchandise for quantity and quality, and signs the purchase order. Copy 3 is then removed and kept on file by the receiver.

AUXILIARY REC. VOUCHER

THIS GREEN NUMBER Against orders. When partial deliveries are received, this auxiliary form supplements the purchase order copies.

NAME

STRUCT OF STATE OF ST

Copy 1 is returned to the receiving room. Copy 2 goes to the Stores Accounting Department, is entered on the perpetual inventory record, and forwarded to the Buying Division, where the invoice clerk checks it with Copy 4 and the vendor's invoice.

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In cases where several shipments are made against the same order, an auxiliary receiving voucher form (Figure 5) is used. This form is filled out in pencil with the same information appearing on the purchase order, and follows the same course as copies 1, 2 and 3 of the original purchase order.

## Requisition and Invoice Flow

Chart 2 demonstrates the flow of requisitions and invoices through the Purchasing Department.

For control purposes, store room materials, which number approximately 15,000 items, are broken down according to types of material and are numerically grouped. Each numbered group controls a certain type of material, and the group numbers follow through all stages of raw material accounting, from stock records to daily controls and the financial ledger.

The stock records consist of Remington-Rand visible equipment on which is shown material on order, received, disbursements, low limits, and the balance on hand. The financial ledger controls money value only, and shows the money value of stock on hand, by groups, at all times.

Requisitions, arising in the using department are forwarded to the store rooms, are stamped "filled" when the material is delivered, and are then sent to the Stores Accounting Division. They are first grouped, then deducted from the stock balance and priced. They are then extended, showing the money value of each disbursement. The day's requisitions are sorted by group number, and run by group and money value on a Burroughs shuttle adding machine. The recapitulation of this summary control shows total withdrawals by groups, and is carried as a credit to the financial ledger (Figure 6).

Requisitions are then sorted by the class to which the material is to be charged. A similar control is run in duplicate, showing the class and the money value by classes. A duplicate copy of this control, with requisition, is forwarded to the Cost Accounting Department.

When using departments, for any reason, wish to return merchandise to the store room, a credit requisition form is used. It is identical with the regular requisition except that it is printed in red ink. The information is the same as that on regular requisition, but when this form is received in the Stores Accounting Department, a credit entry is made on the perpetual inventory, in red ink, the amount is added to the balance, and the group and class involved are credited for the amount in dollars.

Recapitulations of these controls are summarized at the close of each month and are journalized, charging the various classes with the material for the entire month at one time.

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		SIGN		DEF
REC	EIVED	-11-		

The invoice manifest (Figure 7) is made out in duplicate daily, and the original accompanies the day's invoices to the cashier's department.

The sample delivery ticket (Figure 8) is used for interdepartmental routine only. It is a four-part form, made out when a sample is received for test, and is delivered with the goods to the individual responsible for the test, one copy being returned to purchasing files and one to receiving files as a record. When the tests are completed, a report is required, one copy being returned to the purchasing department bearing these recommendations. The vendor is notified of the outcome of the test, and the ticket is filed for reference.

Invoices received from the vendor are rubber stamped with a block showing

Invoice Received (date)

Extensions O.K.

Receipt O.K.

Class O.K.

Price O.K.

Recorded P.R.

Terms % Date

Classified

When the extensions have been checked, terms and discounts entered, and the invoice checked against receiving vouchers, the invoice is passed to the Stores Accounting Division, where it is grouped and the unit cost entered on the perpetual inventory record.

It then goes to the bookkeeper, who enters it on the financial register (Figure 6) and takes a total by stores group. The totals of these groups are considered to be debits to raw materials stores. Against these debits are entered the totals obtained from the requisitions by the control clerk. These amounts are entered as credits to raw materials stores. This information, with the various breakdowns obtained from it, is the basis for the monthly statistical report prepared for the Purchasing Agent's use.

The bookkeeper then enters the day's invoices on a manifest (Figure 7), and after obtaining an O.K. from the buyer or the Purchasing Agent for each invoice, he passes them on to the cashier for payment to the vendor.

Inasmuch as the glass plant and foundry are operated as separate units, purchases made from them are charged each month by journal entry, these entries being handled in the same manner as an invoice and also entered in the financial ledger as a debit.

### Value of Controls

With the complete responsibility for materials thus centralized within the Purchasing Department, the routines described above proceed smoothly and the various controls are maintained with a minimum of delay and extra clerical effort, since they are integral with the regular departmental records. Their value has been demonstrated many times over.

In the first place, nothing can be overlooked. Interdepartmental transactions are a matter of record, the same as purchases from an outside source, and their costs are properly allocated. Whenever the Purchasing Department places orders with the manufacturing divisions, a factory order is issued, using a special form, with serialized factory order numbers assigned by the Production Department at the beginning of each year. Costs are taken on these orders, and they are passed through the routines in the same manner as a vendor's invoice.

The correlation of physical inventory and financial controls provides a dual check which must be kept constantly in balance, so that there is no necessity for year-end "adjustments" which might otherwise substantially change the complexion of the company's operations. A monthly report is made to the Purchasing Agent from the financial control, which will

A typical purchase specification. More than 150 such specifications have been developed and are in force at the present time.



promptly flash a warning signal in the event that inventories are increasing, and which show at all times the adherence to any or any divergence from current inventory policy; also reflecting any improvement which has

been achieved in the way of better inventory turnover or reduced inventory investment.

Information is readily available for cost accounting purposes and for estimating. All material is charged out at standard prices, but is figured on both the standard and actual basis. Standard prices are set in the Purchasing Department. They are reviewed annually and are subject to change at any time by agreement between the cost department and the Purchasing Agent.

## Reports

Full use is made of the information contained in these records, though with no elaborate system of reports. Reference has already been made to the daily summary and invoice manifest, and to the monthly report summarizing the financial control for the Purchasing Agent.

In addition to these, the Purchasing Agent makes a semi-annual report to management covering salient factors in the materials situation. It presents the general inventory position, with a comparison of inventories and purchases on the larger accounts, in which the objective is to maintain a turnover of about six times per year; comments on quality; a report on volume and prices; and a statement of current purchasing policy.

## Records

The majority of purchase records are incorporated in the controls already described. These include the perpetual inventory, kept by commodity items, and a purchase record kept according to vendors. Both of these are 5 x 8 card records of the visible type.

In addition to these there is a price record used for items which are not regularly carried on the perpetual inventory. This is kept in a McMillan visible record book, with individual sheets  $3\frac{1}{2} \times 10\frac{1}{2}$  inches for each item, the description of the item being shown on the bottom line, which serves as the visible index as the sheets overlap. A column at the right provides space for entering the names of several vendors who may be supplying that item. Entries are made from the vendors' invoices, showing the date, quantity, price, F.O.B. point, and the vendor (by number corresponding to the list at the right). Entries in this record are made only when prices or vendors change, for it is not intended as a complete historical record of all purchases. When prices check with this record, and in the absence of a later or special quotation, the invoices are O.K.'d for price and passed for payment.

There is also a cash discount record, filed according to vendors, which shows the terms applicable in each case. This form is filled out and retained by the clerk responsible for receiving vendors' invoices, refiguring extensions, and entering the terms of sale in the rubber stamp block. It provides a ready reference for any information on terms or discounts, and

BR-1 Page 2 E-1-38 man's BR-1 Page 1 6-1-38 (A) SCOPE 88-1 (3) CHEMICAL PROPERTIES (c) PHYSICAL PROPERTIES PURCHASE SPECIFICATION No BH-1 AUSCH & LOMB OFFICAL CO Rochester, N. Y. Adopted (D) COLD NORKI Mevised Pebruary 1, 1936 August 11, 1955 Revised June 1, 1938 (E) WORKMANSHI (F) TOLERANCE (O) LENGTHS THE PACKING

is an additional means of insuring that cash discounts may be taken.

## Catalog File

A very complete catalog file is maintained. For this purpose filing cabinets are used, with special drawers to accommodate the various sizes. The catalogs are kept according to size, with a numerical designation for reference. The index to this file is kept on 3 x 5 cards, with cross reference according to vendor and product; two different colors of cards being used to distinguish readily between the two indexes.

The vendor cards (salmon) have the supplier's name as the heading, with space for listing various items below, each with a reference to drawer number and catalog number. The commodity cards (white) reverse this arrangement, with the product or subject appearing in the heading, and space for listing a number of potential suppliers, each with reference to drawer and catalog number as above.

In order to keep this file up to date, a printed post card form is filled out and sent to vendors at intervals, stating:

Continued on page 104

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## PEN-POINTS ON PURCHASE LAW

BY H. H. SHIVELY, BABSON INSTITUTE







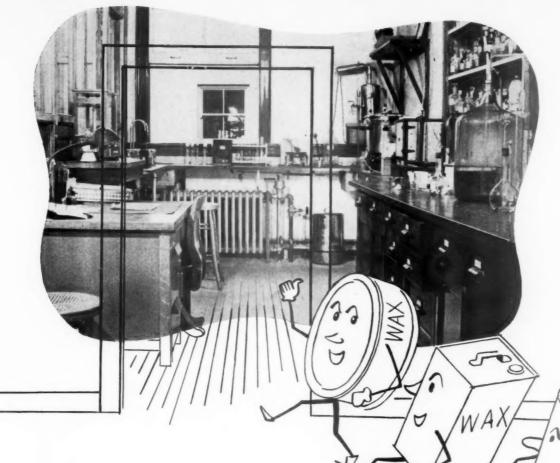


## 16: Responsibility Under a Bailment

THIS is the type of contract known as a bailment. By the agreement, the property of the aircraft company is given over to another for safekeeping, to be returned at the end of a specified time. It is a mutual benefit bailment. The Purchasing Agent obtains a service. The warehouse company receives a storage fee.

Under the apparent terms of the contract pictured above, the Purchasing Agent expected to get the safety and convenience of the River Street warehouse. He did not get them. The warehouse company changed the hazards of the bailment by putting the goods in a different warehouse than the one contracted for. It had no right to do so without the consent of the Purchasing Agent. By doing so it became liable for any loss involved, even though it may not have been due to its own negligence.

Any fire insurance coverage on the property at one place would not cover it if moved to a new location without the consent of the insurance company, or its agent. The reasoning is similar to that in the bailment case; namely, that a change in the location changes the risk and therefore the insurance agreement.



## PRACTICAL TESTS

for

## MAINTENANCE MATERIALS

By JOSEPH L. ERNST

Purchasing Agent, Board of Education Rochester, N. Y.



To this compact laboratory, materials come to be tested for conformance to purchase specifications. But the practical test of use is regarded as even more important for many types of supplies.

PECIFICATIONS and tests, for what might be termed the ordinary run of supplies, are more important (usually essential) to the public buyer in the purchase of such items than to the Purchasing Agent of a private owned industry. This is so mainly because a buyer in private owned industry, once having located a product meeting his needs in performance and price may quite easily standardize on that product. Or if he does wish to give a new vendor a trial order he may simply test the newer product against the old.

The public buyer, however, with the words "or equal" either ever present or assumed in his specifica-

tions, must continually test the product of the low bidder in performance or in the laboratory.

The public buyer's problems differ from those of the industrial buyer for the reason that in the case of perhaps 90% of his purchases he is the "ultimate consumer," whereas the industrial buyer earmarks the majority of his purchases for production. Specifications and tests because of these two dissimilar uses may differ greatly. The industrial buyer is always confronted with the factor of *profit*, for if the produced items fail to net a profit the firm's future is in danger. The present day public and institutional buyer is interested in

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savings and in furthering greater efficiency for the taxpayer; rarely are his purchases used for the showing of a profit.

## Performance is the Test

The most important consideration in the purchase of supplies such as maintenance materials is the test of performance. Well established trade terms and names, as well as intricate specifications, may assist the buyer. But the main consideration after all is whether the product purchased or about to be purchased reacts efficiently and economically as anticipated, and the best assurance is the practical test of use under actual conditions. A salesman for a new product may permit one to see orders and testimonials from firms and individuals whose names are familiar, but like the man from Missouri the buyer "must be shown." Testimonials may be the entering wedge and provide the opportunity for the salesman to demonstrate his wares, but the purchasing agent does not become a satisfied user until he has seen or participated in a demonstration under conditions set up by himself.

Among the hundreds of items purchased for janitorial use by governmental units and for public buildings, floor waxes illustrate quite well the difficulties that the public buyer runs into to a marked degree. In much the same way the buyer solves his purchases of soaps, detergents and cleaning preparations.

A specification is meaningless unless deliveries are carefully checked against it. The Purchasing Department requires a specific report on such tests for compliance.

Floor wax is a product that gives many buyers and maintenance men considerable concern. In our organization we have purchased it by brands and we have attempted to purchase by a specification. Were the manufacture of this product better centralized the problem would not be so difficult, but "everyone and his brother" seems to be a potential manufacturer of good (?) floor wax. The larger concerns with research staffs are constantly attempting to improve their product. In the face of this fact, how can the home basement chemist compete on anywhere near a quality basis?

## The Specification Didn't Work

We tried the experiment of writing our own specifications on wax, but even after rather exhaustive study and after submitting it to two or three wax companies for their comments, our results under this method were not satisfactory. This specification went into detail as to the percentage and grade of genuine Carnauba wax, other ingredients, chemical resistance points, etc. One lot of wax was purchased but while it apparently met our specifications it did not meet our needs.

Since that time we have been using what might be called the trial and error method, buying smaller quantities from

several makers, testing the product on our own floors under normal conditions and charting the result. This method has been in force now for three years and during that time we have had several waxes that did not prove satisfactory. These have, of course, been scratched from our list of approved makes.

We have also discovered that we need not pay more than a certain amount per gallon to obtain a wax giving satisfactory results. Consequently we now have a list of several waxes in practically the same price range that answer our purpose. If any new product comes along it must be first within the price limit and then, if it seems to warrant a trial, it must measure up to the approved brands in performance.

## Condition of Use

Our check on testing waxes is a record by buildings and rooms in which the various kinds are tried. With fifty or more separate structures a variety of situations can be selected. The Engineer-Janitor in each building is instructed to keep an accurate record of the rooms or halls in which he used each kind of wax during the summer or Christmas vacation when most of our waxing is done. The results are inspected immediately after application for evenness, gloss, and whether slippery or not. A second inspection after some weeks or months of use gives a story of endurance and wearing qualities.

A wax of a nationally well-known company was among those tested a year or more ago. Shortly after wear started in the fall, complaints from two widely separated schools came into the purchasing office. An immediate inspection followed and in each case it was found after a rain, the wax on the floor turned white when walked on with wet rubbers or shoes. The local representative was called in, he also made an inspection, could not understand why his wax acted in such a manner and reported the matter to his factory. Much to our surprise this company never offered even an excuse for their product, and needless to say they have had no further business from us.

Wax is a difficult product to buy on specification because it will be found that the method of application, the treatment of the surface before application, the amount and consistency of wax used, all have a bearing on whether the finished job is entirely satisfactory or not. In this connection we had an interesting experience. We were testing several brands of wax in one of our larger buildings. Immediately following the application a complaint came from this school that the floors in two of the rooms were very slippery. An inspection showed this to be the fact but the resulting investigation brought out that the janitorial force in these two rooms had only swept the floors, whereas in all of the other rooms the floors had been thoroughly washed before waxing.

A clean floor is essential in order to produce a satisfactory, non-slippery wax finish. The best wax poorly applied will not produce the result expected. Definite instructions to the janitorial force and the assurance that such instructions are followed are necessary in the use of floor wax.

## Adapt the System to the Product

The principles that apply in the purchase of wax, the specifications used, if any, and the testing through application can be used with many other items. In quite a number of instances we use federal specifications, as for example in the purchase of liquid soap, cake soap, alcohol, turpentine, etc. Again in other cases we write our own specifications perhaps using a federal specifi-

SPECIFICATIONS
establish minimum standards of quality

TRIAL AND ERROR
eliminate unsatisfactory products

EXPERIENCE
determined the appropriate price range

"OR EQUAL"
keeps competition alive and widens the range of potential supply sources

PRACTICAL USE TESTS
insure products of proved satisfaction

FOR THE PUBLIC BUYER

cation as a base and changing it to meet our requirements, as for example varnish, floor oil, etc. Of course where a definite specification is used a laboratory test will indicate whether a product does or does not meet such needs and, in general, products meeting such tests prove satisfactory in use.

However, there are other materials, let us say as paper towels for example, where both a laboratory and practical test are necessary, in which case the latter is of more importance than the former. One may specify that paper towels shall be made of a certain per cent sulfide stock, shall contain no ground wood and shall be of such and such weight, size, etc. So far so good, but after all, are we not more interested in what a product of this type will do than of what it is made?

A new towel was recently put on the market; its performance was excellent, absorbing qualities were better than some other towels even though it was lighter in weight. Without a change in our specifications this towel could not have been accepted. This case is mentioned to show that specifications as to detail can and may be too autocratic and really penalize the prospective buyer. Wide awake manufacturers are always aiming to improve their product so that what is standard or tops today may be obsolete tomorrow.

In the case of paper towels we use chemical and weight specifications but we also add performance. For example we now have a towel in the quality range we deem satisfactory so we state in our specification that any towel bid upon must be the equal of our sample in "tensile strength, absorption and tearing qualities, fold, perforation, hand drying properties, and ease of dispensing from towel cabinets." Thus again our performance test becomes our major line of defense against inferior merchandise that might be offered. Similar procedure is used in bids on mimeograph paper, pencils, carbon paper, typewriter ribbons, etc.

## Maintaining Quality Standards

The public buyer more than the Purchasing Agent for a private institution is faced with the gradual lowering of standard and must constantly guard against this threat. The industrial buyer need not give a questionable source of supply even an opportunity to quote—the public buyer must give all who wish the opportunity of bidding. Consequently he must be ever on the alert to prevent inferior products being delivered and accepted.

More latitude for the public buyer in the selection of supplies might be desirable. On the other hand a certain amount of red tape may be necessary to safeguard the buyer and prevent the ugly word "politics" being hurled at him frequently. Occasionally vendors and bidders doing business with governmental and other public agencies will protest and even obstruct awards to competitors a procedure they would not dare follow toward private industry. Theirs is the hope of "getting by." This is just another hurdle for the public buyer to jump or run around.

One case that illustrates this point occurred not long ago in connection with the erection of new schools under P.W.A. Among equipment items called for were pupil desks. Before specifications were written a committee had examined samples from many makers and on the basis of inspection and test selected three that were considered entirely satisfactory. Specifications were written around these three and they were used as standards. Bidders on other makes would have to establish that their desks were "the equal."

The manufacturer of one of the three approved Continued on page 106



"That fellow you threw out this morning is back again. He's with another company now."

It's easier to buy well when goods are well sold. Cooperation works both ways and produces tangible results. Here's how The Flintkote Company encourages suppliers' salesmen to do their best.

## By ADAM R. CAMPBELL

Purchasing Agent
The Flintkote Company



# SALESMEN NEED HELP

LL good buying has to rest on the three factors of quality, service and price. Without at least an even break on those, nothing the buyer does it profitable to his employer.

But when those three are met, there are plenty of things which can make the difference between ordinary and extra profitable buying. And one of the best of these "plusses," is to help the salesmen who call.

Salesmen need help. Selling is a tough job, and an exacting one, with many a chance to make errors. If more Purchasing Agents had to do a little selling themselves—such as selling their companies' scrap or disposing of surplus stocks—there would be a lot more sympathy shown to salesmen in buying offices.

## **Produces Results**

Yet the reasons for helping salesmen, go far beyond mere human sympathy for friends who have hard tasks. Cooperation given to salesmen produces tangible results. And those results are based upon the fact that no manufacturing company stands alone today. The company which fails to become one with its suppliers, and one with its customers, cannot be in the best competitive position. Modern times demand solid business relations.

The salesman who feels that the Purchasing Agent is trying to cooperate with him, can do a thousand and one little extra things to help that buyer. I found that out years ago when I was a salesman. But the salesman who has to combat the buyer, must proceed on the theory that anything he says or does may be used against him. And every one of those little things which the salesman can do, is a tiny service or extra value of some kind which can be added to the purchaser's profits.

And just what does cooperation mean? After all, it is a much used word. . . .

In the Flintkote policies, cooperation means helping the other fellow to be at his best in the functions he is to perform.

That is an idea of cooperation which comes straight from our President. I do not remember that he ever put it into just those words. But his actions, and those of our other senior executives, convey the idea that way. A salesman is at his best when he feels safe, friendly and solid in his relations with his customer. The most useful salesman must have that "forward look," that habit of taking a long view of the future and building for it. And the salesman functions with his eyes ahead when he feels that the things he does are building his future relations with the customer. The buyer who makes the salesman feel that way, is doing something important to help the salesman to be his best.

One way to get the salesman to look ahead, is to ask him to keep adequate records.

As an example of this, when we bought some special drums, we told the salesman to keep records of where every part his house put into them was bought, and so on. Years later we needed a duplicate order. He was able to bring around all of his records, blueprints, specifications and sources. We gained by buying our duplicate order at a highly favorable price and without all of the trouble of recalling or rebuilding our specifications. He gained by the knowledge that an original job well done and recorded can lead to future business.

## **Mutually Profitable**

The whole operation was a solid hook-up between a buyer and seller. We had adequate records of those drums, of course. But the main records were where they should be, in the plant which must perform the operations of procuring the materials for those drums and of fabricating them. In a solid business relation between a buyer and a seller, each must become part of the other for the duration of the transactions they have. That relation was mutually profitable when the seller kept records fully and handily, at our suggestion.

The start of such a transaction as that one, is another important point in helping salesmen. And that is to give them accurate, informative and reasonable specifications in the first place. To do this, we call in our engineers and technicians from shop and laboratory, as do most buyers.

## **Another Step**

But we go a step farther than that. We ask the salesman to perform an added function which shows him his personal responsibility for what is going on. And the salesman who feels himself as well as his house to be responsible, feels himself to be working solidly and therefore at his best.

The added step is to ask the salesman for written reports of what happens at his technical interviews with us.

## SOME CONCRETE WAYS OF HELPING THE SALESMAN

Consciously build toward a lasting business relationship.

Keep adequate records of technical interviews and tests.

Serve as an informative contact between the company and its suppliers.

Give the salesman a chance to look well to his own boss.

Direct him to the spot in your organization where his product can be of greatest help.

In such an interview we may have present the salesman, the Purchasing Agent, and one or more of our own engineers and laboratory men as well as technical men from the salesman's organization. The written report we ask of him is supposed to tell what was said, and who said it.

That there may be differences of opinion as to what went on at such a conference, is obvious. Different men will put different connotations on the same words or voice inflections. The written record from a salesman therefore is a protection against misunderstandings and a way of shortening the time period needed to arrive at a satisfactory mutual understanding. But the buying principle involved is like the one in asking the drum salesman to keep complete records. It puts the onus of having clear knowledge onto the shoulders of the party which must use that knowledge most—the supplier of the materials.

The salesman also needs his knowledge to be built in the matter of price trends. Yet in this also, the salesman needs to be allowed to function cooperatively.

For every chance the salesman gets to learn about prices, the buyer gets at least fifty. The salesman knows only what his employer and his customers tell him about his own line; the buyer learns from all houses about all lines using the same general materials and processes.



Good purchasing performance contributes to all phases of product saleability.

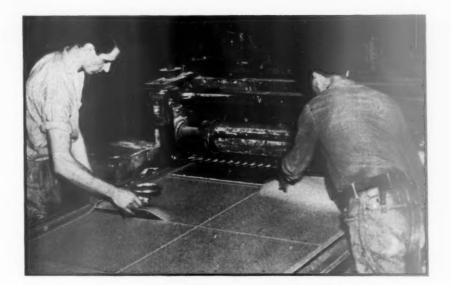




ABOVE: Decisions arrived at cooperatively establish a common responsibility and are more likely to succeed.

UPPER RIGHT: Continual checking of materials in the plant and laboratory keeps the buyer and the salesman informed on quality.

RIGHT: The knowledge developed in successfully handling any operation helps all plants having similar processes.



But the buyer can only learn by listening. And he can only impart by talking. For this kind of cooperation with salesmen, the buyer must be a true contact for salesmen. He must be an informative contact between his own company executives and the salesmen, and to some degree between salesman and salesman.

## **An Informative Contact**

When a wise salesman depends upon the knowledge and training of a buyer to act as a filter for the salesman's tips and hunches, then the salesman gives for what he can get. He tries to be first man to inform that buyer, and to inform that buyer without delay. This is a big and obvious advantage both ways.

The buyer who would give and get information this way, must grant adequate interviews. We cooperate with salesmen by avoiding being snowed under with paper work. This gives us time to circulate and see what is going on, in our own plants and in the businesses of suppliers. A red hot statistical and clerical department can be the buyer's best friend in freeing his time for all important work with salesmen.

The whole matter of cooperating on price information, can be wrecked by taking too much advantage of it. The salesman is not to be expected to double-cross his own house by giving the buyer unfair breaks on rising markets, any more than the wise buyer will save the seller's bacon on falling ones. The buyer who expects no more than fairness in this respect, gets by far the best average prices over long swings, and without tying up too much money in inventories nor getting caught with too much or too little stock in relation to market probabilities. And he gets a thousand and one "breaks" of the kinds that add up to profits. It is better to be too fair than too smart.

## Keeping Alert

A form of cooperation is to keep the salesman on his toes. He must feel secure enough in his future so that worry will not distort his thinking, but not safe enough to go to sleep. We keep checking up all possibilities, and we let the salesmen know that we do. In that way we not only protect ourselves against overlooking any bets, but we help the salesmen by Continued on page 99

# Sulvanier STUDIES



GORDON S. YOST, General Purchasing Agent of the Toledo (Ohio) Scale Mfg. Co., has come up through the school of practical experience. In his early teens he decided on a business career, and after finishing his public school course at Anderson, Ind., he learned the machinist's trade with the

Hill-Standard Mfg. Co. of that city, later joining the office force of the American Rotary Valve Co. Ambitious and capable, he made rapid progress. By the time he was 18, he was assistant to the factory manager and was casting about for greater opportunities, wondering what a larger city might have to offer.

At 19, he came to Toledo, worked a short while with the Auto-Lite Company, then found a position in the stock recording department of the Toledo Scale Company, starting a business association which has continued for nearly a quarter century with mutual benefit and satisfaction.

The World War meant time out from his job. Yost enlisted in the Aviation Corps, U. S. Army, and was attached to the Royal Flying Corps while he spent a year in England teaching the British pilots how to handle machine guns in the air. He was on the first ship returning to America after the Armistice was signed, and promptly resumed his former position. He advanced to the head of the stock recording deparment, became assistant to the General Purchasing Agent, and seven years ago became General Purchasing Agent for the company.

He has been a member of the Toledo Association for eight years, attending six national conventions during that period, and exercising active leadership in local and district affairs. He has served a term as President of the Toledo Chapter, and is currently a director of the Association. He represented the Purchasing Agents group on the Citizens' Survey Committee when Toledo adopted the city manager form of government, and was instrumental in preparing a report and recommendations for improvements in municipal purchasing.

He has a thirteen-year-old son, Arnold; is a past president of the Parent-Teachers Association; takes an active part in church work; plays golf and bridge; and is an enthusiastic baseball fan.

Recognizing the value of his own production training as preparation for his purchasing work, he stresses practical experience in the selection of his departmental personnel. His castings buyer graduated from the sand heap in the foundry, and is experienced in pattern making, so that he specifies pattern equipment from the production viewpoint. A similar situation prevails in respect to other buying divisions. He believes in enlisting the resources of research, chemistry, metallurgy and engineering toward the development of strict specifications on materials and parts, all definitely geared to the company's requirements, and takes a personal pride in maintaining the quality standards of his company's product through a progressive and efficient purchasing program.



G . S . Y O S T



WILLIAM G. THOMAS, Purchasing Agent for the Duke Power Co., Charlotte, N. C., has grown up in and with the electrical industry. His first job was with Ford, Bacon & Davis, changing the Atlanta transmission system from overhead to underground. When that job was completed, he became con-

nected with the Georgia Power Co., serving as General Storekeeper, Assistant Purchasing Agent, and Traffic Manager. It was during this period that he acquired a thorough technical background by attending the evening courses in electrical engineering at Georgia Tech. In 1917 he was appointed Purchasing Agent for the Southern Power Company and the Southern Public Utilities Company, later consolidated as the Duke Power Company. In a little more than two decades his responsibility has increased from two millions to sixteen million dollars annual expenditure.

A man of quiet personal charm, with a talent for friendship and a reputation for fair dealing, "Tommy" has the affectionate admiration of a wide circle of associates and friends, including a good many salesmen who haven't yet been able to sell him a dime's worth of their product. Fond of sports, especially golf, he is known as the dean of golf at the beautiful old Charlotte Country Club, where he has served as a director and chairman of the greens committee for the past fifteen years. He is a good Rotarian, active church member, Mason, and member of the Chamber of Commerce and the Charlotte Engineers Club.

For twenty years he has been instrumental in bringing purchasing men together to discuss their common W · G · THOMAS



problems. Four years ago, that group, under his leadership, became affiliated with the N.A.P.A. as the Carolinas-Virginia Association, and Mr. Thomas served as the first National Director. The organization has a healthy and active membership of seventy-five, rather a noteworthy achievement in view of the fact that it is comprised of men whose desks are as much as four

hundred miles apart.

Mr. Thomas is proud of that Association, and the Association is proud of him. As a tribute to his vision and leadership, the Thomas Award has been established—a trophy to be presented annually to some member of the Association for meritorious service in the field of purchasing. It is a significant and most appropriate plan that will accomplish a double purpose, for every such award will at the same time be a reminder and a recognition of the unselfish service which has been largely responsible for the success and the very existence of this group.



**MATTHEW POUTTU**, Purch a sing Agent of the Oregon Culvert & Pipe Co., Portland, is justly proud of his Finnish ancestry, a racial stock whose sterling qualities have dramatically captured the respect and admiration of the world. His father was a native of that country, then under Russian dominion,

and spent his early manhood there. He came to this country about fifty years ago, responded to its spirit of independence and opportunity, and promptly completed his requirements for American citizenship. With his Finnish bride, he settled at Eden, in one of the mountainous sections of the State of Washington, where the topography and abundant wild life reminded them of their native land. It was in this setting that Matt made his advent into the world, one of a sturdy family of thirteen brothers and sisters.

The elder Pouttu had served the usual compulsory tour of service with the Russian army, and narrowly missed being apprehended for further duty on a later visit to his old home. Matt's military service was voluntary, for he left his first job with the Columbia River Packers' Association, at Astoria, Oregon, to enlist with the American forces in 1917, and served for two years in the Quartermaster Corps.

He has been in purchasing work ever since his return to civilian life in July, 1919. For eight years he was in charge of purchases and cost accounting for the Beall Pipe & Tank Corp., Portland, devoting his evenings to the studies which had been interrupted by an early enlistment in the ranks of the breadwinners and then by the war. After a year and a half at the Northwestern College of Law, he disposed of his books by advertising them on the bulletin board, but they presently returned to his library, for the successful purchaser, Miss Bertha Stone, later became Mrs. Pouttu. She went on to complete the course, and is a member of the Oregon State Bar and the Multnomah Bar Association. Matt's further courses in the University of Oregon Extension classes have included accounting, income tax procedure, traffic, investments, credits and collections. Evening classes at the University are a sort of hobby with the Pouttus, an enjoyable means of keeping mentally alert and growing.

He joined the Purchasing Agents' Association of Oregon in 1920, a year after it was organized, and has been a consistently active worker for twenty years, serving as secretary continuously since 1934.

In 1928, he became Purchasing Agent of the newly formed Oregon Culvert & Pipe Co., which has since become a subsidiary of the American Rolling Mill Co. of Middletown, Ohio. His part in the formative development and growth of that enterprise is attested by his election as secretary of the company some years

300.

His interests are varied. He's an ardent fisherman, and cooks crawfish in a manner to delight the epicure. He's an excellent dancer. A lover of music and the opera, he fits Deems Taylor's idea of the perfect radio listener—relaxed, absorbed and non-communicative, thoroughly appreciative of the artist. A further source of pride and satisfaction is the handsome new home which he bought last year, commanding a broad view of the City of Portland and the west side hills, and a constant reminder that purchasing can be an art as well as a business.

M · POUTTU



# WHAT HAS HAPPENED TO THE STRATEGIC MATERIALS?

By HAROLD A. KNIGHT

Metals Editor
New York Journal of Commerce

AST fall, with the outbreak of general war in Europe and the increasing urgency of our own program of national defense, the Army and Navy Munitions Board designated seventeen commodities as "Strategic Materials." The basis of that classification was the essential nature of these commodities as materials of war, and the lack of satisfactory substitutes, the fact that the United States is dependent, in large part, upon foreign sources for its supply. Supply is the important factor. It might be seriously af-fected by any one of a number of developments: the destruction of foreign mines and factories; abnormal foreign demand and the diversion of supplies customarily available to this country, to meet the defense requirements of other nations; the hazards of ocean transportation: the possibility of this country being drawn into the conflict and assuming the status of a belligerent.

Governmental interest in these commodities has important implications for the industrial user. For these are essential materials of industry and of peace-time uses as well as materials of war. The outlook for increased manufacturing

for the purposes of national defense intensifies the situation. Governmental accumulation of raw supplies solves only one phase of the problem, in that emergency orders for national use might be accelerated by having the raw materials furnished; but scarcity of supplies for normal use would be the more acute. Besides this, the effect on market levels is an important industrial consideration.

Eight months have passed since this situation was recognized and various steps were taken to guard against critical shortage. The purpose of this article is to evaluate the situation as it now exists, and to review the factors and developments which affect these particular markets.

## Prices Are Slightly Higher

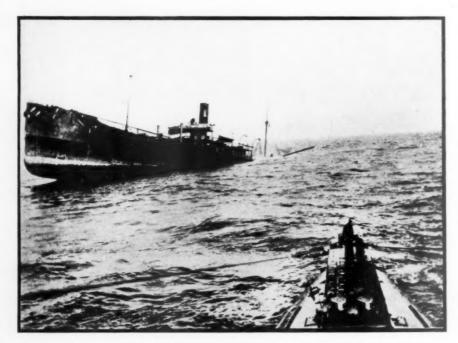
Price behavior gives some clew as to buyers' and sellers' appraisal of the situation. In the overall picture, the strategic materials markets have conformed to a general pattern. Prices rose rapidly when the war started because of the many uncertainties as to the extent of the war, as to how many countries would become involved, how rapid ship sinkings would be, how high freight rates and insurance would be raised.

In several cases prices had doubled after a month or two of the war, such as manganese ore, quick-silver, manila fibre, and silk. In others the advance was at least by 50%, such as tin and rubber. But in most cases prices have by now receded to close to September 1 levels. The price of tin is actually a few cents per pound under the war start level.

Two items still remain at the peak, manganese and quicksilver, though the Bureau of Mines comments that there is no apparent reason why quicksilver, at least, should remain that high in view of the apparently abundant supply.

Some of the phlegmatic items such as nickel and aluminum, remained unchanged. In the case of nickel, prices have been unchanged for about eight years, so that it would apparently take something but little short of the world coming to an end to disrupt nickel.

Usually the final declines in prices would of themselves indicate that stocks have become sufficient and that all tension is over. The continued high prices of manganese are due partly to the fact that this is "Strategic Material No. 1" and that there are no substitutes.



A submarine appears, and tons of vital materials are erased from industrial supply.

International News photo



Black Star photo

Subsequent declines in prices of many of the commodities have been due to the possibility of wholesale substitutions. For wool for instance, there are several fibres and fabrics which can be put to use in its stead.

### Wool

Wool is of course strategic, being virtually essential for uniforms and blankets for the armed forces, the best quality being none too good for the fighting men, let the civilians use the substitutes if there is not enough to go around. However Uncle Sam is apparently not worried over the supply as he has not taken any conspicuous steps to

hoard a supply.

At the start of the present war it was being said that the British might commandeer the wool clips in Australia and New Zealand as was done during the world war. This would still leave large supplies available from the Argentine and South Africa, provided these sources were still accessible. As it has turned out, however, Australia has released substantial amounts during the past few months.

Substitutes for wool are more feasible than for many commodities. High prices and scant stocks of raw wool would cause weavers of the cheaper grades of men's wear suitings to increase the percentage of rayon waste used. Waste also would be used by knitters of outer-Waste also wear, men's sweaters of rayon waste already having met with trade acceptance. Domestic staple fibre could be used by carpet manufacturers in the place of wool. Blanket manufacturers have turned out successful products made of acetate staple fibre with a permanent crimp, though these have not been introduced on a commercial scale.

Meanwhile our own domestic production of wool has expanded most gratifyingly. From 1919 to 1925 the annual wool clip in the United States varied between 228,000,000 and 266,000,000 pounds. Beginning in 1926 the size of the clip began to grow and since that time has fluctuated between 352,000,000 and 374,000,000 pounds. There is still considerable room for expansion should it become necessary. During the world war, cotton was the only substitute. Since then staple fibre has developed to a practical point.

In 1939 imports of wool were 98,190,000 pounds against 30,810,-000 pounds in 1938, the 1939 imports having been equivalent to about ten weeks' consumption in this country.

Representative prices are wool tops. The spot price at the start of the war was 861/2 cents per pound.

Production is rushed, night and day, in the warring countries, but not for American industrial markets.

Near the end of March it was \$1.01 per pound.

At the start of the war supplies here were equivalent to three months' supply and apparently they have not increased nor diminished much in the interim. It is pointed out that the very fact that our government recognizes wool as a strategic material gives it a certain amount of prestige and publicity and sets in motion steps to increase the supply of such an officially valuable commodity.

Australian growers are disappointed over the slow movement of wool to neutral countries and are apprehensive lest this season should end with large supplies of unsold wool. They are asking control authorities for some lowering of prices to stimulate purchasing. France has prohibited the export of Aleppo wool while supplies from New Zealand and India are precarious in transit.

Shipments by Argentina to the United States during the first two months of this year increased over 300% from those for the similar period of 1939.

### Silk

Silk is used in military operations for the manufacture of parachutes, powder bags and for certain parts of airplane wings. It is a material which is light in weight, strong, durable and versatile in uses. Brand new and comparatively new substitutes for silk have received much publicity, and more and more civilian needs can be filled by these subcopper, it should be simple to buy silk in return.

However there is a shortage of certain desirable grades and a general decline in quality in the United States at present. Many of Japan's skilled silk workers have left the mills and farmers have left the mulberry trees for the army thus tending to make for a shortage of silk at home. Moreover the Japanese have been compelled to use more silk at home because of inability to import sufficient cotton and wool for normal uses.

Rolling ceaselessly up to the front lines, essential materials are diverted from normal industrial use, and are destined to quick destruction.

stitutes, allowing a greater share to be turned over to the military. Nvlon and a new strong acetate yarn seem to be capturing the imagination of civilians. In the weaving field, silk can be replaced by rayon, and in the hosiery industry special cuprammonium yarns and new vis-

cose types can be used.

In normal times the Government buys about 50,000 pounds of silk per year. It has been buying at a much larger rate since the war started, perhaps double, but there has been none of the conspicuous and advertised buying that characterized manganese, tin and tungsten. Since military danger to the United States seems now to lie towards Europe rather than Japan, Americans are confident that our essential supply will not suffer materially. As long as the United States possesses commodities which Japan needs, such as scrap iron and

As has been the case with prices of most strategic materials the price excitement of the early days of the war has subsided. Thus of the war has subsided. 90% 13-15 denier is now around \$3.10 to \$3.12 as against \$2.82 to \$2.87 at the start of the war and \$4.65 at the peak of the war prices. Of prices of 14 prominent commodities listed by the Commodity Exchange, Inc., silk has experienced the sharpest decline in price since Jan. 1, 1940, amounting to 31.3% the next sharpest having been in hides, or 14.2%. Such price declines by themselves indicate confidence in our supplies.

## Manila Fibre

As the nomenclature indicates this strategic material comes principally from the Philippines, and the United States should stand in a favored customer position. It is used for making rope, a necessary war material. The Navy of course uses ropes for light anchors, for sailboats where they are used as auxiliary vessels, etc. The Army needs ropes for hauling guns and many other operations.

The price history of manila fibre is as follows. On Sept. 1, 1939 the price was 5½ to 5½ cents per pound; at the end of March, 1940 prices were at 5½ to 55% cents, thus virtually with no net change. shortly after the outbreak of the war prices rose to about ten cents per pound because of large government inquiry, fear of disruption of imports, fears of excessive insurance, freight rates, etc. Dealers and manufacturers in this country rushed into the market pell mell to cover their needs.

However in December and January prices dropped as rapidly as they had risen, with the market now placid as though nothing had ever happened. Stocks of fibre in the hands of manufacturers are said to be high, equivalent to from six months' to a year's consump-

The Army and Navy continue to accumulate supplies. Thus on March 21 the Navy bought 3,103 bales at a price of 5.6 cents per pound.

## Rubber

Prices on rubber are running about two cents per pound higher than when the war started so there would seem to be no great tension concerning our future supplies. This is certainly a mild gain since the war by comparison with man-

ganese ore, for instance.

Present stocks of rubber in the United States are equivalent to three months' supply at the current rate of consumption. This is about a standard supply for any commodity which takes a long time to process, such as copper, or is brought in from a long distance, such as tin and rubber. However a rubber authority has told us that he would consider a five or six months' supply better under the circumstances, especially since consumption in the United States is now large, running about 50,000 tons per month.

The plans of our government in providing for hoarding of rubber are unique in that barter arrangements have been made—American cotton for 80,000 tons of rubber. However only 2,000 tons have so far arrived, though arrangements were made in September. This failure for arrivals to run smoothly in

Continued on page 89

## THE PURCHASING AGENT

AND THE

# **GUFFEY** ACT

Part II

## PRICE PROVISIONS OF THE ACT

By DAVID L. FRANCIS

Student at Graduate School of Business Administration Harvard University. Boston, Mass.

This paper was awarded second prize in the 1939 Boffey Memorial Award Students' Contest sponsored by National Association of Purchasing Agents. The prizes consist of cash awards made from the Boffey Memorial Award Fund to which individuals and affiliated associations have contributed. Part I, dealing with the background and spot buying features, appeared in the March issue.

WHEN, and if, fixed prices are put into effect under the Bituminous Coal Act of 1937, a brand new set of conditions will influence the actions of the buyer, which are quite different from existing conditions today under the spot order limitation, or before the Act was passed. These changes that will affect the buyer are as follows:

 Prices of coal will be a great deal higher.
 Price and quality will no longer be such important factors in the purchase of coal. The buyer's bargaining power will be limited by the bottom placed on prices by the minimum prices set up by the Coal Commission.

(3) Other factors will come to have a more important effect on the buyer such as the seller's reputation, salesmanship, delivery, reciprocity, friendship, etc.



It is estimated that 500,000 individual price determinations will be required to cover various grades and sizes in all districts and minimum price areas.

(4) The supply and demand of coal may be affected differently than in the past, and the industrial user may be confronted with shortages of the type of coal he needs or uses. He may have a delivery problem.

(5) Many companies may find it expedient to as-

sume the control of captive mines.

(6) Other companies may find it expedient to shift to competitive fuels.

The original intent of the Act was to raise and stabilize prices of coal to such an extent that the producer will receive a fair return for his product. This means that industrial prices will be increased generally by from 35c to 50c per ton, depending on the coal, locality, etc. The buyer must take this fact for granted and should make provision for it by such means as attempting to have his furnaces modernized to burn more efficiently and to see if he can utilize a cheaper grade of coal just as effectively.

## Limits on Bargaining Power

The buyers' hands will be tied when it comes to bargaining on a price basis with different producers, for he will be limited by the minimum price provisions. These minimum prices will, in most cases, tend to be the maximum prices as long as the supply is greater than the demand, as it has been in the past.

To explain in detail the workings of the minimum price structure is outside the scope of this paper. It is enough for the Purchasing Agent to know that the Act attempts to create prices which will be the same to all consumers in any one locality, taking into consideration, of course, the various differences in value due to size and quality. Every producer in any district within a price area shall have a chance to quote prices F.O.B. mine which will allow those prices to be competitive with other mine prices in other districts within that price area. (The United States is divided up into 23 districts and these are grouped into ten minimum price areas. Two minimum price areas, including 12 districts, account for 90% of the coal production.

Under the new regulation, production may have to be curtailed until stocks which are not readily marketable have been disposed of. The industrial user will suffer.

The remaining price areas and districts include outlying fields in the southwest and west which serve localized markets.)

For example, at Dayton, Ohio, the minimum price of a certain grade of nut and slack from District 8 may be \$2.00 F.O.B. mine, plus \$2.00 freight rate. Using this hypothetical \$4.00 figure (for purposes of our example) as a base price, all other prices from other districts in that price area must equal \$4.00 for that specific grade and quality of coal, and therefore all producers will have an equal chance to compete with each other. This means that the minimum price F.O.B. mine will be \$2.35 where there is a freight rate of \$1.65, and in a third district the operator who has a \$2.35 freight rate must make his minimum price \$1.65.1

The Coal Commission has had a terrific task in getting all of the various prices coordinated, and at the same time be fair to all the producers who have been accustomed to shipping each marketing area and all of the consumers. The result is that there shall be about 500,000 different coal prices—an amazing number. The Commission has not attempted to have freight rates changed in the attempt to coordinate prices, but has had to raise and lower the F.O.B. price at the mine to make adjustments for the fixed freight rates.

The above price of nut and slack is related to its quality, which is based on the relative heat value (B.T.U.), volatile content, ash content, sulphur and phosphorous content, and fusion point (ash softening temperature). Another coal, whose qualities, by similar calculations, are 5% poorer than the \$4.00 coal, mentioned above, will be priced at \$3.80, delivered at Dayton, so the prices F.O.B. mine for the three districts for this lower grade of coal will be \$1.80, \$2.15, and \$1.45 respectively, for the freight rates naturally do not take into account different qualities in various coals. All the above figures are hypothetical.

### **Equalization of Costs**

It is beyond the scope of this paper to give a full account of how this pricing structure is developed and set up by the Act. It is enough to state that it is an extremely complicated and cumbersome procedure. In theory, a Purchasing Agent can equally well buy one coal as another, providing it fits his purposes. In other words, the price differentials take into account the relative value of the constituents which make up coal and the various differentials of freight rates, and it actually does not make any difference whether the coal he buys is a 14,000 B.T.U. coal, or a 13,000 B.T.U. coal, as long as his boiler is adapted to burn either of them. So, in theory, the Purchasing Agent will not be able to get a better price between different grades of coal, as he is able to do at the present time. This may be made clearer by an example.

Under the competitive market as it is today, the buyer must watch carefully the price and quality differences and their relation to freight rates to see that he is getting the best buy. A buyer in X city may have a choice of purchase between a nut and slack coal from



the Island Creek seam at \$1.70 F.O.B. mine and a nut and slack coal from the Powellton Seam at \$1.95. The heat value of these coals is 13,800 B.T.U. and 14,400 B.T.U., respectively, and the fusion point of ash is 2,450° and 2,800° plus, respectively. Assuming that there are no freight rates and that the fusion point is not a factor of importance, it would be cheaper to purchase the Island Creek Coal.¹ However, as the distance from the mines, and the freight rates increase, this price difference of 25c is overcome by the relative heat value of the coal. The relative value would be

$$\frac{14,400}{13,800} = \frac{105}{100}$$

Thus, if the freight rate is \$3.30 for each coal, the delivered price would be \$5.00 and \$5.25 per ton respectively. However, the latter (the Powellton coal) is about 5% more efficient, and this factor should be adjusted in the price. By multiplying, \$5.00 x .05 = \$0.25, or from a heat efficiency standpoint the Island Creek is worth \$0.25 less than the Powellton coal. Therefore, the price differential between \$5.00 and \$5.25 is a proper one and the purchasing agent is getting the same amount for his money in buying either of the coals.

However, if the freight rate is \$5.00 a ton in each case, the delivered price will be \$6.70 and \$6.95 respectively. \$6.70 x .05 = \$0.3350. Subtract this from \$6.95, to equalize the heat value differences and you have a "real" value of \$6.615 per ton for the Powellton coal as compared with \$6.70 for the Island Creek coal, or the buyer would be making a gain of \$0.085 per ton by buying the Dictator coal, which is the higher B.T.U. coal.

This is a simple example to illustrate how the quality and freight rates affect the competitive prices of coal. In actual practice the salesmen for the two coals, in submitting competitive bids, would make these adjustments in price themselves. Of course, it is good practice for the buyer to check the figures.

In coordinating prices, the Coal Commission should see that this difference is set up in the various minimum prices. Thus at the mine the minimum price of the Island Creek slack would be raised to \$1.8570 per

<sup>&</sup>lt;sup>1</sup> It is impossible to properly weigh fusion differences or to evaluate them. As a matter of fact, the difference between 2450 fusion and 2800 in plants which can burn the 2450 fusion coal is practically nothing or at least not to exceed one or two cents per ton for increased maintenance on the lower fusion coal. However, many plants cannot burn 2450 fusion coal at all without serious operating difficulties and, therefore, those coals are completely eliminated from consideration. In plants which are designed for 2450 fusion coal and are in good condition, there is no difference in value between 2450 and 2800. Yet on account of the limitations of market for the low fusion coals, any rigid price structure must take fusion into account and show an increased value for high fusion coals.

ton to coordinate it with the Dictator coal and in the situation of the \$5.00 freight rate the minimum price of the Island Creek would be lowered to \$6.62 per ton. In other words, the buyer is supposed to get an equal bargain on all coals, and the quality factor is differentiated for him by law. In this example may be found the answer to why there will be 500,000 different prices for various coals. (There are about 30,000 different sizes and grades of coal in the country.)

## **Analyzing Coal Values**

However, the buyer does not always get an equal bargain on all coals, for the actual changes in prices will not be made proportionately as to a percentage increase in value. The main changes in prices that will be made between one market area and another will be the changes required because of different freight rates from different districts. There will be some changes because of differences in values such as outlined above but they will not be enough. This is the weakness of the law because it will not give equal opportunity to each producer with all other coals in each market area to which he has been accustomed to ship coal.

The buyer will be interested especially in these facts, because where there is a low freight rate it will be often advantageous to buy the cheaper coal (refer to example above of the two different grades of coal), and where the freight rate is high the more expensive coal will be the better buy, because the Commission will not set the price differential on a purely heat value basis. The effect, therefore, is to telescope together the higher and lower prices. Analyzing this situation

will be a difficult task for the buyer.

Another point which I must touch upon, and which creates the greatest complication of all in properly evaluating coals for industrial consumption, is the difference in burning characteristics (cooking qualities, slow-burning or flashy, character of the clinker formed, etc.). There may be a difference of 5% in the value of one coal over another on a given plant, yet the B.t.u. input of the two coals can be practically the same. Then another plant might show just the reverse results with the two coals. Obviously, the Purchasing Agent must select the coal which will do the best job and show the greatest value in his particular plant.

Again, take a coal from a seam which has slow burning, highly coking burning characteristics and which give it its value for by-product coke making, yet those very characteristics are a serious drawback to the same coal when applied to a stoker for steam-raising; therefore, for one use the price of slow burning coal should be raised as related to a free-burning coal of the same

B.t.u. content, while for steam-raising, it should be lowered against the same coal.

These examples will show to some extent the complications which arise when the Commission attempts to set up and coordinate prices. It also may show the buyer what he must expect and watch for.

## **New Buying Factors**

Since the buyer is no longer able to weigh his decision to purchase on price and quality alone he is forced to look to other factors to influence his buying. From the price and quality standpoint the purchasing agent might assume an attitude of extreme indifference, and as long as the producer provides him with the coal he wants, he need not care where he bought the coal. However, it is generally not in the nature of the buyer to take such an attitude, and since there are other factors which enter into buying coal besides price and quality, these factors will become predominant.

Some of these factors may be enumerated as the selling company's reputation, their ability to give prompt and steady delivery both at present and in the future, free services in the form of engineering advice and recommendations, friendships and reciprocity. All of these factors are fairly self-explanatory. Great stress will be placed on selling ability and personality, and any service or agreement which will directly or indirectly reduce costs, or gain other business, will become major factors.

For instance, if the combustion engineer can show the buyer how he can make his boilers operate more efficiently, he is cutting the fuel cost of that company, or if a salesman through reciprocity can obtain extra orders for his client, he also is performing a service which will affect the client's profit and loss statement favorably. If a buyer can obtain the services of a good reputable coal supplier, it may mean that his problems of coal buying are over, and reordering will become a routine affair which will take little of the buyer's time. This in itself is a saving.

## The Problem of Sized Coal

As mentioned earlier in this discussion, the relative demand for the industrial sizes of coal to the total production of coal is becoming more important, and as this trend continues the production will become geared closer to handle this demand.

To understand how the supply and demand for coal works, a little background must be reviewed. First, very few companies produce only one grade or size of coal, and most of the big companies produce many sizes and grades. In fact, one of the larger coal companies has to market around 200 different sizes and grades. Secondly, few companies have a place for the storage of coal, and demurrage charges prohibit the storing in cars. Therefore, the companies have to sell all the coal as they produce it.

There are two ways of doing this. The first is to gear production so as to take care of only the sizes with the least demand in order not to be overstocked

The range of sizes produced under normal operation, and without relation to consumer demand, is a major problem under the rigid marketing regulations of the Guffey Act.

## 

- UNDER FIXED PRICES

  ... higher and lower prices will be telescoped, making analysis of values more difficult.

  ... differentials will depend on transportation costs rather than on B.t.u. values.

  ... service factors will have increased weight in selecting sources of supply.

  ... production of industrial sizes will be hampered by restrictions of crushing practice.

  ... incentive for forward buying will disappear.

on that size. For instance when a mine produces 20% lump, 30% intermediate grades, and 50% nut and slack, if the demand for lump is, say, only one-half what it should be, in order not to be overstocked on lump by producing at normal, the mine is run at half production. This does not seem a reasonable way to do things, for if the demand for the other two grades is normal the mine will be very short on those grades and the customer will not be supplied with them. Therefore, companies do not do this, but rather produce the second way, which is to supply all that the customer demands, and when they are overstocked on a grade, they try to sell at a price reduced enough to be enticing enough for a customer to buy it for storage. Unfortunately however, under fixed prices the mine will be forced more or less to work under the system first described. Let us investigate this further.

Under free competition supply and demand are fairly flexible and self-regulatory. For instance, if the demand for large domestic sizes during the winter is heavy, the mines, in order to meet this demand, will be forced perhaps to produce more nut and slack than industry is currently consuming at that time. Therefore, they will be overstocked on these latter sizes, and prices will be reduced on them enough to cause the industrial buyer to stock up in anticipation of a time when the demand for lump will not be so heavy and when the demand for nut and slack is greater relatively, at which time the price of the nut and slack would be greater. This situation may take place within the industrial market itself, for the mines may be overstocked, or have an excess supply of some of the many industrial sizes, and a shortage of other sizes. This will regulate itself if prices for the short sizes get too high, for industrial buyers will shift to other sizes which have depressed prices, thus equalizing the mar-

As stated above, on account of the multiplicity of sizes and the simultaneous loading, it is extremely difficult to keep all sizes moving currently. It has been customary in the past for producers to substitute unwanted sizes on railroad fuel, lake or tide orders, or if possible, to put them through a crusher and make smaller sizes out of them. This might be considered legitimate and necessary flexibility. However, many producers and the Commission itself consider these

practices one of the evils which have brought the coal business into its present condition. They are considering seriously limiting or eliminating all substitution and crushing except to a very limited degree under very rigid restrictions, which will make it impossible for the producers to meet shipping schedules as they have in the past.

The only alternative to crushing and substitution of unwanted sizes is to hold them on track and shut down the mine until that coal can be sold as such. Any such restriction against legitimate practices of this kind which are necessary to render the proper service to the industrial plant will injure the industrial consumer.

## Fixed Prices Hamper Marketing

There is no solution in the Guffey Act to care for these situations when the market is regulated by a minimum price, for if the mines cannot offer overstocked sizes at a reduced rate, there is no incentive for the buyer to purchase ahead, unless there is the fear that he, himself, in the future will become short due to lack Therefore, when a mine has a lot of orders for certain industrial sizes, it must produce in certain proportions, or ratios, other sizes which are not in demand. If the mine cannot reduce the price of those long sizes or crush the coal in order to get rid of it, he cannot produce those sizes because of lack of storage or because of demurrage charges. Therefore, he will not be able to supply completely the larger orders. If this situation happens simultaneously at a great many mines-and it might happen easily-industrial buyers of those sizes with a heavy current demand would find themselves short, or without a sufficient

Therefore, if the rigid price pattern of the act is put into effect, the buyer must become acquainted with the various types of coal that are usable in his furnace or boilers, and know where he can get them in case the supply of one type becomes limited, and, especially, if the price level of that type raises above the minimum price while other prices are still at the minimum. Consequently, it follows that the future situation may be somewhat reversed from the present one, and the buyer may be forced to seek out coal sources with a sufficient supply for his purposes and which are not above the minimum price. It will no longer be so

much of a buver's market as at present.

Also, a great many producers will not be in a position to guarantee that they can furnish commitments for any length of time, as they will not be certain what their production will be over that period. The seller who can guarantee delivery will be in a favored position. However, with rigid restrictions against substitution and crushing, no producer will be in position to guarantee delivery of any particular size as conditions change too rapidly for all producers alike.

## **Leased Mines Are One Solution**

Many large companies who have the financial resources to do so will consider gravely the possibility of buying, or leasing, mines to guarantee production and to keep their fuel cost at the present lower level. (The captive mines and leased mines are exempt from the price rulings of the Guffey Act.) This idea will be especially pertinent to large and steady users of coal, such as by-product coke ovens, utilities, iron and steel companies, automobile companies and the like.

(Continued on page 120)

# THE MARKET PLACE



First - of - the - month quotations for carloads or mill shipments. with comparative prices quoted one month ago and one year ago

April 1 1939	Mar. 1 1940	April 1 1940		April 1 1939
NOIDS			Saltpeter crystals	.071/2
Acetic, 28%, cwt 2.13	2.23	2.23	Soda	101/2
Muriatic, 18 deg., cwt 1.50	1.50	1.50	Ash, 58%, light, bulk, cwt.	.90
Nitric, 36 deg., cwt 5.00	5.00	5.00	Caustic, 76%, solid	
Oxalic, Works, cwt 10.75	10.75	10.75	Sal, Works, cwt	
Phenol, Works, cwt 14.25	14.25	14.25	Sodium	
Sulphuric, 66 deg., ton 16.50	16.50	16.50	Bicarbonate, cwt	1.70
			Phosphate, cwt	1.85
11 1 2 2			Silicate, 60 deg., cwt	1.65
<b>M</b>			Sulphur, Comm., cwt	1.60



1940

.081

2.30

1.10

1.70 2.10

1.65

2.60

.081

2.30

1.10

2.10

1.65

2.60

#### BUILDING MATERIALS

Brick, N. Y. dock, per M	12.50	12.00	12.00
Cement, f.o.b. plant, bbl		2.15	2.15
Glass, single B, per box		2.70	2.70
Lime, per bbl	2.16	2.75	2.85
Nails, wire, per keg	2.45	2.55	2.55
Oak flooring, per M. ft	70.00	71.00	72.00
Southern pine, K.C., per M ft.	22.76	24.27	24.33 ↑

#### C

CHEMICALS			
Alcohol, denatured, gal	.301/2	.311/2	.311/2
Alum, potash, cwt	3.40	3.75	3.75
Works, cwt	1.15	1.15	1.15
Ammonia, aqua, 26 deg., drums	.02	.021/4	.021/4
Arsenic			
White, cwt	3.00	3.00	3.00
Red, cwt	15.75	18.00	18.00
Barium			
Chloride, ton	77.00	77.00	77.00
Carbonate, ton	56.50	56.50	56.50
Benzol, pure, gal	.16	.16	.16
Borax, powd., ton	48.00	48.00	48.00
Chlorine, cwt		1.75	1.75
Formaldehyde, lb	.051/4	.051/4	.051/4
Glycerine, drums, lb	.121/2	.121/2	.121/2
Lead acetate, white, broken,			
cwt	10.00	11.00	11.00
Double	.13	.13	.13
Single	.13	.13	.13
Potash			
Caustic, solid	.061/4	.061/4	.061/4
Permanganate	.181/2	.181/2	.181/2
Sal Ammoniac	, -		/-
Gran, white, cwt	4.50	4.50	4.50
Gran. gray, cwt	5.75	5.75	5.75

#### COAL & COKE

Anthracite, stove, mines	5.90	6.25	0.25
Bituminous, Cleaf, mine run	2.25	2.60	2.50 ₺
Bituminous, Pa. Grade A		2.30	2.30
Beehive Coke, Connellsville		5.00	5.00 -
By-product Coke, Newark	10.80	11.38	11.38
FERTILIZERS			
Muriate potash, 80-85%, per			70-1
unit K20	.531/2	.531/2	.531/2
Sulphate potash, 90-95%, bags	38.00	36.25	36.25
Nitrate soda, bulk		27.00	27.00
Sulphate ammonia, dom. bulk .		28.00	28.00
Steamed bonemeal, 3 and 50,			
per ton		32.00	32.00

#### GRAINS

Barley, malting, bu	.66	.69	.681/2	1
Corn, No. 3, yellow, bu	.471/2	.561/2	.583/4	1
Oats, No. 2, white, bu	.323/4	.431/4	.421/2	1
Rye, No. 2, Western, bu	.603/4	.843/8	.845/8	1
Wheat, No. 2, hard winter, bu	$.66\frac{1}{2}$	.961/2	1.01 ↑	
Flour, spring patents, 196 lbs	4.55	5.95	5.90 ↓	

#### HIDES

Light native cows, lb	.10	.131/4	.121/2
Heavy native steers, lb		.13	.121/8
Calfskins 5-7 lbs per skin		1.80	1.65 ₺

Pig iron, foundry No. 2 21.00 Pig iron, basic, valley 20.50 Cast iron pipe, New York 50.00 Forging billets, Pittsburgh base 40.00	23.00 22.50 53.00 40.00 34.00 43.00	23.00 22.50 52.20 \(\psi\) 40.00 34.00 43.00	
Pig iron, basic, valley 20.50 Cast iron pipe, New York 50.00	22.50 53.00 40.00 34.00	22.50 52.20 ↓ 40.00 34.00	
Pig iron, basic, valley 20.50 Cast iron pipe, New York 50.00	53.00 40.00 34.00	52.20 ↓ 40.00 34.00	
Cast iron pipe, New York 50.00	40.00 34.00	40.00 34.00	
	34.00	34.00	
Forging billets, Pittsburgh base 40.00			
Sheets bars, Pittsburgh base 34.00	43.00	43.00	
Wire rods, Pittsburgh base 43.00	10.00		
Cold rolled sheets, cwt., Pitts-			
burgh base 3.20	3.20	3.20	
Hot rolled annealed sheets,	0.00		
cwt., Pittsburgh base 2.15	2.10	2.10	
Cold rolled strips, cwt., Pitts-	2.10		
burgh base	2.95	2.95	
Hot rolled strips, cwt., Pitts-	=.20	2.70	
burgh base	2.10	2.10	
Tin plate, cwt., Pittsburgh base 5.00	5.00	5.00	
Bars, cwt., Pittsburgh base 2.15	2.10	2.10	
Shapes, cwt., Pittsburgh base 2.10	2.10	2.10	
Bright wire, cwt., Pittsburgh	2.10	2.10	
	2.60	2.60	
Ground shafting, cwt., Pitts-	2.00	2.00	
	2.70	2.70	
8			
Rails, ton, Pittsburgh base 40.00	40.00	40.00	
No. 2 heavy melting scrap,	15.00	11001	
ton, Pittsburgh 10.00	17.00	14.00 ↓	



April 1 Mar. 1

1940

1939

April 1

1940

1.02 2.30 † .06½ ↓ 1.50

.06 1

.34 .251/2

1.02 1.95 .0638 1.50 .056

.34 .251/2

#### PAPER

News, roll, ton	50.00	50.00	50.00
Book, M. F., cwt	6.00	6.25	6.25
Wrapping, northern, cwt	4.75	5.00	5.00
Wrapping, southern, cwt	3.50	4.00	4.00
Wrapping, manila jute, cwt	8.25	8.25	8.25
Chip board, No. 1, ton	30.00	45.00	32.50 ₺
Wood pulp, mech., ton	22.00	32.00	32.00
Wood pulp, sulph., No. 1, cwt.	2.00	2.50	2.50





#### METALS, NON-FERROUS

Aluminum, virgin ingots	.20	.20	.19 ↓
Antimony, American, spot	.111/4	.14	.14
Copper			
Electrolytic	.111/4	.111/2	.1114 4
Casting		.111/4	.11
Lake	.113%	.111/2	.111/2
Chromium, 97%, spot	.85	.85	.84 4
Lead, E. St. Louis	.0475	.051	.049 ↓
Nickel, ingot		.35	.35
Quicksilver, flask	89.00	180.00	183.00 ↑
Silver, bars, N. Y., per oz	.423/4	.343/4	
Tin, Straits, spot	.464	.475	.455 ↓
Zinc, E. St. Louis	.045	.0575	.0575



 Crude, Mid-Continent
 1.02

 Crude, Penna
 1.45

 Gasoline, 65 oct
 .055%

 Bunker Oil C
 .95

 Kerosene, 41-43 grav
 .043%

 Penn. bright stock, light, 25
 .15

 P.T
 .15

 Penn. cylinder oil, 600 flash
 .10½

#### RUBBER

**PETROLEUM** 

	Smoked sheets	* * * * * * * * * * * * * * * * *	.1518	.1811	1838 ₹
--	---------------	-----------------------------------	-------	-------	--------



14.25

18.31

14.25



#### NAVAL STORES

Turpentine, gal	.35	.381/2	.37	4
Rosin, Grade B, bbl	4.90	6.20	6.25	1

#### PAINT MATERIALS

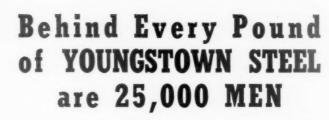
METAL PRODUCTS

Copper, wire, bare, cwt...... 15.375 Yellow brass sheets, high..... 17.375

White lead, dry,	basic, car-			
bonate		.07	.07	.07
Carbon black		.033/1	.0255	.0255
Shellac, orange		.101/2	.16	.15 ♦
Linseed oil		087	104	108 4

#### TEXTILES

Cotton middlings, Galveston	.0831	.1057	.1038 4
Cotton yarns, 22s	.21	.251/2	.24 \
Print cloths, 381/2", 64x60	.041/4	.05	.047/8 1
Sheeting, 37", 48x48	.045/8	.053%	.05 ↓
Wool, fine combing, 1/2-blood	.73	.93	.86 ↓
Worsted yarns, French 2-40s	1.45	1.85	1.821/2 ₩
Worsted yarns, English 2-40s	1.35	1.65	1.65
Silk, Japan, double extra cracks	2.19	3.01	2.77 ↓
Rayon, viscose, 150, 40s	.51	.53	.53
Burlap, 10½-oz., 40"	.056	.0765	.071 ↓
Hemp, Manila	.051/4	.055/8	.051/2 4



# Behind each one of these men is an investment of \$11,346.

You hear some people say "all steel is alike--it's made to specifications." But specifications can't include men, and the men who make it stand behind it. They are the most important factor in any steel you buy.

If you could see the pride of our Youngstown workmen as their steel takes form under watchful care, the painstaking caution of the chemist checking every heat as exactly as an airplane pilot checks his ship, the thoroughness with which the inspectors examine the detail of each product before they stamp their "O K" -- and our name and reputation -- on it .... if you could see all this and more, every hour of every day, you would know why we are proud of our products and proud of our men. Thousands of users know they can depend on the uniformity and quality of the steel to which these Youngstown workmen are devoting their lives.

Sheets - Plates - Pipe and Tubular Products - Conduit - Tin Plate - Bars - Wire - Nails - Tie Plates and Spikes.

25-190

# YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon and Alloy Steels
General Offices - YOUNGSTOWN, OHIO



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for Phillips

Recessed Head Screws



Apex-Phillips Power Bits are economy tools - economical per thousand screws driven; economical because they can be reconditioned, as new, time after time at a moderate cost.

Apex-Phillips Power Bits are made of a special shock-resisting steel, heattreated to give maximum hardness, toughness and wear resistance. Special bits are made for case-hardened, selftapping screws. Apex Power Bits are made for all types and sizes of electric, air and spiral drivers.

#### POWER BITS Slotted Head Screws

are of the same quality of long-wearing, tough, shock-resisting steel. For all types of electric, air and spiral drivers, for screw sizes from No. 4 to No. 18.

When you want economy in Power Bits - economical service, less spoilage of work and screws, more screws driven per bit - then buy APEX for economy.

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Dayton, Ohio

# APEX PERSONALITIES in the NEWS

William S. Desloge is Purchasing Agent of the McDonnell Aircraft Corp., makers of military aircraft, which this month takes over the six-acre plant adjoining the Lambert-St. Louis field, St. Louis, formerly occupied by the Monocoupe Corp.

C. A. Bermender has been appointed Purchasing Agent of the Cherry River Boom & Lumber Co., Richwood, W. Va. He has for many years been associated in a similar capacity with the Philadelphia office of that company and of the Cherry River Paper Co.

C. V. Nunn has been appointed City Purchasing Agent at San Antonio, Tex., succeeding Whitlow K. Perkins, who has been named chief deputy building inspector for the city. Mr. Nunn has for some time been assistant to Mr. Perkins in the purchasing office.

E. F. Watkins of the Southern California Edison Co., Los Angeles, and James MacPherson of the Standard Oil Co., San Francisco, have been appointed to the Executive Committee of the Iron. Steel and Allied Industries Group of the California State Chamber of Commerce. They represent the Manufacturers and Purchasing Agents Group for southern and northern California, respectively.

Willard N. Sweeney, Purchasing Agent for Michigan State College, has been named as a member of the Ingham County Road Commission.

Miss Katherine Young has been appointed to the newly created position of Purchasing Agent for the Passaic, N. J., Board of Education. Miss Young has been associated with the school department for 23 years, and has been executive assistant to the Board Secretary.

E. Van Vechten, Purchasing Agent of the United Air Lines, Chicago, and Chairman of the Purchasing Agents' Group, Air Transport Association of America, has been named a member of the executive committee of the Last Man Pioneer Air Mail Club, recently organized among former civilian employees of the Post Office Department serving in the air mail branch prior to 1927, to perpetuate the memories of the pioneer days during which the foundation of the present Air Mail Division of the postal service was laid.

L. E. Hallock has resigned as Purchasing Agent for the Kelly Co., Cleveland, Ohio, to accept an executive position, including the direction of purchases, for the Chef Boiardi Food Products Co., at Milton, Penna.



J. A. Schultz

Joseph A. Schultz has been appointed Purchasing Agent of the Mansfield, Ohio, works of the Westinghouse Electric & Mfg. Co., succeeding J. E. Lautsbaugh, resigned. Mr. Schultz is a graduate of Northeastern University in Mechanical Engineering, and spent eight years as a development engineer before joining the Westinghouse organization in the Pittsburgh purchasing department in November, 1938. He has been connected with the Mansfield purchasing department for the past year.

Dwight L. Moody, for the past several years Purchasing Agent of the Indian Motorcycle Co., Springfield, Mass., and recently appointed general manager of the company, has been elected a Vice President and member of the Board

Joseph S. Weppner of Rock Springs, Wyoming, has been appointed State Purchasing Agent succeeding L. R. Brewer, who has been transferred to the State Industrial Institute at Worland as herd manager and instructor in farm management under a new program of vocational education.

Leo G. Pauly has been appointed Purchasing Agent for Kern County, California. Mr. Pauly is experienced in business, educational affairs, and in the public service.

Neal M. Forney, District Purchasing Agent of the Grinnell Co., at Charlotte, N. C., has been elected to the Board of Directors of the Charlotte Shippers and Manufacturers Association.



#### SLOTTED SCREWS ARE A SOURCE OF WASTED TIME AND EFFORT



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WHEN DRIVER SLIPS



**PULLING OUT CROOKED SCREW** 

Why Fasten it the HARD Way, When it's QUICKER, CHEAPER and BETTER to Fasten With PHILLIPS Screws?



**PUTTING SCREW ON DRIVER** 

Quicker because Phillips Recessed Head Screws permit use of faster driving methods. Even when assembling easily-damaged, finished parts, power drivers can be used more often, since there's no danger of a slipping driver.

Cheaper because time is money and time-wasting opera-

tions—like boring pilot holes, withdrawing crooked or broken screws--are eliminated.

Better because assemblies are stronger, more attractive. Phillips Screws set up tight without split heads. Even inexperienced men do better with these easily-driven screws.

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More and more manufacturers - large and small - are turning to this modern fastening method, to obtain time savings that average 50%. Orders are filled faster, money is saved, and the Phillips-fastened products have added sales appeal. Order from one of the manufacturers listed below.

PHILLIPS RECESSED HEAD SCREWS.

MACHINE SCREWS SHEET METAL SCREWS WOOD SCREWS STONE BOLTS U. S. Patents on Product and Methods Nos. 2,046,343; 2,046,837; 2,046,839; 2,046,840; 2,082,085; 2,084,078; 2,084,079; 2,090,338. Other Domestic and Foreign Patents Allowed and Pending.

American Screw Co., Licensor, Providence, R.I. Continental Screw Co., New Bedford, Mass. Corbin Screw Corporation, New Britain, Conn.

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of nd The Lamson & Sessions Co., Cleveland, Ohio National Screw & Mfg. Co., Cleveland, Ohio Parker-Kalon Corporation, New York, N.Y.

eoli Manufacturing Company, Chicago, Illinois ssell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y. ovill Manufacturing Co., Waterbury, Conn. akeproof Lock Washer Co., Chicago, Ill.

# Among the ASSOCIATIONS

#### CALIFORNIA PUBLIC BUYERS ELECT NEW OFFICERS

J. H. Morrow, Purchasing Agent of Contra Costa County, was elected president of the California State, County and Municipal Purchasing Agents' Association for 1940-1941, at the conclusion of the recent 23rd annual convention at Santa Barbara. Van L. Shaljian, Purchasing Agent, City of Stockton, was elected vice president, and Verne O. Gehringer, Purchasing Agent of San Diego County, was re-elected secretary-treasurer. The 1941 convention will be held at Stockton.

#### GRAY MEMORIAL AWARD

The Purchasing Agents Association of Northern California has established the Davis B. Gray Memorial Award at both Stanford University and the University of California, to be made each year to the student at each of these universities showing the most promise of making a success in the field of purchasing. The award will consist of an appropriate personal prize for each of the two winners, and in addition the winner's name is to be engraved on a permanent trophy plaque furnished by the Association and displayed in the Business School Hall of the Library at Stanford and in the Department of Commerce at the University of California.

The Stanford award will be made by a committee consisting of Dean J. Hugh Jackson and Professors Holden, Faville, and McFadon, in consultation with the Educational Committee of the Association, and the award will be presented at the annual Stanford Alumni Banquet.

The U. of C. award will be made by a committee consisting of Dean Robert D. Calkins and Professors Roberts and Grether, the selection being from among fourth year students in the Department of Commerce who have a leaning towards purchasing or allied subjects. The presentation will be at one of the monthly Association meetings.

The late Davis Burge Gray, whose services to purchasing are memorialized in this appropriate award, was Purchasing Agent for the California & Hawaiian Sugar Refining Corp., Ltd., San Francisco, for many years, and one of the organizers of the Northern California Association in 1916. During the formative years of that Association he served as its secretary-treasurer and as president in 1920. His interest and activity continued up to the time of his death in 1934. He was the originator of the first "Advertisers' Night," instrumental in initiating the annual joint meetings with the Advertising Club, and conducted courses in the Ethics of Purchasing and in Blue-Print Reading. His vision, enthusiasm, and personal service have been a constant inspiration to the group, and the establishment of the present award is a fitting tribute to his memory.

htting tribute to his memory.

NEW OFFICERS OF THE SAGINAW

VALLEY ASSOCIATION

The Saginaw Valley Association has elected the following officers for 1940-1941: President, Thomas H. Plater of Flack-Pennell Co.; Secretary, John R. Clayton of Consolidated Coal Co.; Treasurer, Byron J. Rockwood, City of Saginaw; National Director, Ernest L. Reichle of Reichle Supply Co.

#### MARCH 5

BRADFORD—Dinner meeting of the Northwestern Pennsylvania Association, at the Emery Hotel. Speakers: C. N. Pfohl, Jr., petroleum engineer of the

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## . . . could be built 5 times over with the fittings Grinnell has produced!

Indisputable evidence of Grinnell's leadership in the field of piping is the vast number of fittings produced by this company in the past sixty years. It totals over 300,000,000... enough to join standard lengths of pipe into five continuous pipelines to the moon!

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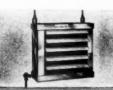
Among the products which have made Grinnell the leading name "whenever piping is involved", are: automatic sprinkler fire protection systems, prefabricated piping, Thermolier unit heaters and Amco industrial humidifiers. For detailed information regarding any of these services, write to Grinnell Co., Inc., Executive Offices, Providence, R. I.

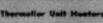
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## GRINNELL

WHENEVER PIPING IS INVOLVE









Automatic Sprinklers



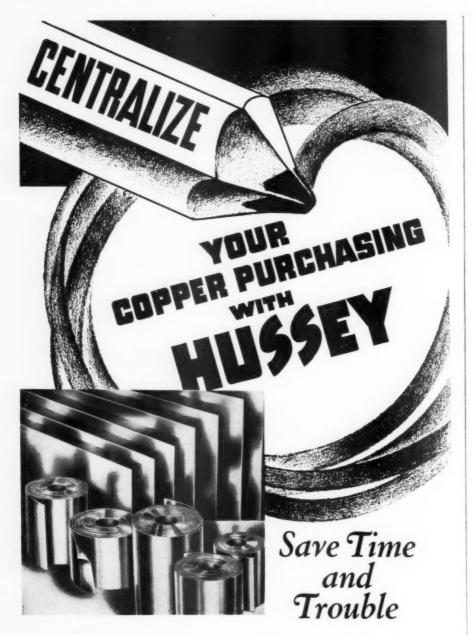
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There's no need to complicate your copper purchasing by buying from a number of sources. Why not make up just one order and send it to Hussey—industry's headquarters for copper in every form? You will get direct action from a nationwide organization that controls its production from mine to warehouse. It will save you time and simplify ordering and invoicing. Make a memorandum to try this convenient Hussey service on your next copper purchase.

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Warehouses in Principal Cities



Kendall Refining Co., "Producing Crude Oil in the Bradford District," and A. G. Hopcraft, Purchasing Agent of the Cleveland Worm & Gear Co., "The Humorous Side of Buying and Selling." Motion picture, "Heat and Its Controls," shown through courtesy of the Johns-Manville Co.

OAKLAND—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Motion picture, "The American Way," shown by courtesy of the United Air Lines.

of the Oklahoma City Association. Speaker: W. L. James of Stanolind Oil & Gas Co., Tulsa, District Vice President of N.A.P.A.

#### MARCH 7

**SAN FRANCISCO**—Luncheon meeting of the *Northern California Association*, at the Palace Hotel. Speaker: Frank Herbeth, district freight agent of the American-Hawaiian Steamship Co., "Duty to Cargo."

**SALT LAKE CITY**—Dinner meeting of the *Utah Association* at the Hotel Utah. Discussion of national releases, led by Richard A. Reid.

#### MARCH 11

CHILLICOTHE, OHIO—Plant inspection visit and dinner meeting of the Columbus Association, at the Mead Paper Mill.

**PORTLAND**—Dinner meeting of the Oregon Association, at the Mallory Hotel. Handbook discussion, Chapter 4, "Buying the Proper Quality," led by Glen Ede.

#### MARCH 11-12

BOSTON—Twelfth annual industrial exhibition sponsored by the New England Association, at the Hotel Bradford. The exhibit, with approximately fifty displays completely filling the Grand Ballroom, was open Monday afternoon and evening and all day Tuesday. C. L. Sheldon was chairman of the committee in charge.

Monday luncheon meeting in the Penthouse. Official American League motion picture of 1940, "Touching All

Tuesday luncheon meeting in the Penthouse. Motion pictures: "The Manufacture of Tool Steel," shown by courtesy of the Crucible Steel Co. of America, and "Science in Business," presented by Time. Inc.

Tuesday dinner meeting in the Lounge Ballroom. Speaker: Raoul E. Desvernine, President of the Crucible Steel Co. of America, "War is Bad Business."

#### MARCH 12

NEW YORK—Dinner meeting of the Metropolitan Purchasers' Assistants Club, at the Hotel Great Northern. Speaker: T. W. Harris, Jr., Division Purchasing Agent, E. I. du Pont de Nemours & Co.,



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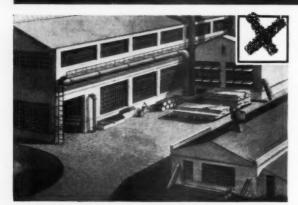
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# HOW DO BURGLARS RATE YOUR PLANT?



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Is your plant an easy mark, with little or no protection against burglars, marauders or firebugs? Do you really think a watchman can properly guard all parts of your plant? Isn't that leaving a lot to a man who can't possibly be everywhere at once?



# Maybe!

Or does your plant protection depend on flimsy patched-up fence that commands the respect of no one? Passers-by, thieves, or your own workers all can note the disregard for property which this represents. Easily torn apart, it affords little protection.



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UNITED STATES STEEL

Wilmington, and Chairman of the N. A. P. A. Fuel Committee, "Bituminous Coal Purchasing Under the Bituminous Coal Act of 1937." H. B. Rowe of Motor Improvements, Inc., Newark, led a forum discussion on "The Purchasing Department's Technical Contact."

MILWAUKEE—Dinner meeting of the Milwaukee Association, at the Elks Club. J. E. Tobey, manager of the Fuel Engineering Division of Appalachian Coals, Inc., Cincinnati, gave an illustrated talk on "A Better Understanding of Coal." Thomas D. Jolly of Pittsburgh, President of the N.A.P.A., spoke on national affairs. Forum discussion of purchasing problems was conducted by Gil Hartman of the Oilgear Co. A reception to Mr Jolly followed the regular meeting.

CINCINNATI—Dinner meeting of the Cincinnati Association, at the Gibson Hotel. Speaker: Frederick W. Giesel, business manager of The Post, "Business Conditions as Affected by the European War."

**TULSA**—Open dinner meeting of the *Tulsa Association*. Speaker: Capt. Maxwell Balfour, Director of the Spartan School of Aeronautics.

OKLAHOMA-Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Speaker: Ky Ebright, University of California Crew Coach, "How to Row."

VANCOUVER—Dinner meeting of the British Columbia Association, at the Hotel Vancouver. Speaker: F. Parsons of Parsons Brown, Ltd., "Commercial Insurance." Handbook discussion, led by L. A. Addington of Canadian Industries, Ltd.

CLEVELAND—Dinner of the East End Purchasing Agents Club, at Fenway Hall. Motion pictures depicting the development of the Diesel engine were shown by Walter A. Maynard of Winton Diesel Motors Division, General Motors Corp.

BRIDGEPORT—Dinner meeting of the Salesmen and Purchasing Agents Association, at the Stratfield Hotel. Officers for 1940, as announced in this column last month, were installed. Two motion pictures were shown.

BAY CITY—Dinner meeting of the Saginate Valley Association, at the Wenonah Hotel. Round table discussion: "The Michigan Sales Tax."

#### MARCH 13

**KANSAS CITY**— Monthly dinner meeting of the *Kansas City Association*, at the Hotel President. Commodity reports and discussion of purchasing problems. Advance plans for the Cincinnati convention in June were also discussed.

BUFFALO—Dinner meeting of the Buffalo Association, at the Lafayette Hotel. Speaker: Gerald A. Busch of the Socony Vacuum Oil Co., "Recent Developments in the Manufacture of Gasoline." Commodity discussion, led by

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When the eyes and efficiency of your employees are at stake, why delay consideration of new sight-saving lighting improvements? Right now is the time to check on possible applications in your plant of the modern fluorescent lamps that give more light of daylight quality — better seeing — without increasing energy costs.

To be fully informed on fluorescent lamps, lighting units, reflectors and accessories, check with your local GRAYBAR lighting specialist. He'll tell you frankly where the new fluorescents fit — and where you'll be better served by other modern forms of lighting. He'll help you decide on the type and location of units that will best meet individual lighting problems in the shop or office. What's more, you'll have a full range of the newest, soundest products to choose from, all backed by the satisfaction-insurance of the GRAYBAR tag.

Why waste time and risk mistakes trying to "pick up" the story on fluorescents by piecemeal inquiry? For a fully enlightened view—go fluorescent via Graybar! Call your local Graybar lighting specialist or write direct for information, mentioning type of application.



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18-inch (15 watts); 24-inch (20 watts); 36-inch (30 watts); 48-inch (40 watts). In white, "daylight," and a wide range of colors for special purposes.



Including twin-lamp unit (using two 48-inch tubes) with built-in auxiliary for general illumination of industrial areas. Other reflectors for local bench lighting, including vapor-proof units. Also, all types of office and drafting room fixtures.

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Prof. Martin Brumbaugh of the University of Buffalo and William J. Irving of Gowanda.

MINNEAPOLIS—Dinner meeting of the Twin Cities Association, at the Radisson Hotel. Speaker: Thomas D. Jolly of Pittsburgh, President of the N. A. P. A. George Du Toit of the Minneapolis Honeywell Regulator Co., a charter member and first president of the Association, was elected to honorary life membership.

#### MARCH 13-14

PHILADELPHIA—Annual Industrial Products Exhibit of the Philadelphia Association, at the Penn Athletic Club, with more than sixty informative displays covering a diversified array of products and materials. Kenneth Brown Collings, war correspondent and aeronautical authority, recently returned from Europe, spoke at the luncheon meeting, Wednesday, presenting an uncensored story of conditions in the belligerent nations. The exhibit banquet took place on Thursday evening.

#### MARCH 14

**CHICAGO**— Dinner meeting of the Chicago Association, at the Hotel Sherman. Speaker: Thomas D. Jolly of Pittsburgh, President of the N. A. P. A.

LOS ANGELES - Dinner meeting the Los Angeles Association, at the Elks Club, with program devoted to the topic, "Modern Packaging." Leonard A. Wheeler, packaging engineer, spoke on "Packaging Materials, Design and Adaptations." Gail Selig, attorney for the California Cosmetic Manufacturers Association, discussed "Some Legal Aspects of Packaging." Two motion were shown: "Packaging—A Two motion pictures Service," by courtesy of C. A. Breskin, publisher of Modern Packaging, and Cutting Losses Through Re-Designing Packages," by courtesy of the Association of American Railroads. A specialized display of modern packaging methods and products was on exhibit in connection with the meeting program.

TACOMA—Monthly dinner meeting of the Washington Association, at the University Union Club. Mayor J. J. Kaufman spoke briefly. Discussion based on N. A. P. A. releases, led by J. V. Reardon of Barde Steel Co., Leo Long of Atlas Foundry & Machine Co., and Eric Strommer of Hunt & Mottet Co. The meeting was preceded by a trip of inspection at the smelter of the American Smelting & Refining Co., and a visit to the Tacoma Narrows Bridge.

SAN FRANCISCO—Luncheon meeting of the Northern California Association, at the Palace Hotel. Speaker: Bromley W. Hill, Purchasing Agent for El Solyo Ranch, "Purchasing for the Largest Diversified Ranch in California."

**SPRINGFIELD**— Dinner meeting of the Western Massachusetts Association, at the Sheraton Hotel. Dr. Martin A. Brumbaugh, Professor of Economics at

the University of Buffalo, explained the Haney chart of business conditions, and predicted a moderate upswing in May or June.

#### MARCH 19

PITTSBURGH—Executives' Night dinner meeting of the Pittsburgh Association, at the William Penn Hotel. Speakers: Thomas D. Jolly of the Aluminum Co. of America, President of the N. A. P. A., and George A. Renard, Executive Secretary of N. A. P. A., "From One P. A. to Another."

HUNTINGTON—Plant and laboratory visit of the Tri-State Association, at the Standard Ultramarine Co. Dinner meeting at the Hotel Prichard, with addresses by three executives of the company, developing topics which had been seen in the afternoon tour. The speakers were: P. R. Eisenhuth, Plant Manager of the Dye and Ink Departments; F. J. Freeman, Plant Manager of the Chemical Colors and Intermediate Departments; and L. F. May, Chemist in charge of Production, Barium Products Division.

**ST. LOUIS**—Dinner meeting of the St. Louis Association, at the Hotel York. Speaker: Major Albert Bond Lambert, President of the Board of Police Commissioners, "The St. Louis Police Department."

NEW YORK—Dinner meeting of the New York Association, at the Builders' Exchange Club. Speaker: DeLoss Walker, Associate Editor of Liberty Magazine, "Public Problem Number One." The meeting was preceded by an afternoon forum under the direction of John D. Leeson of RCA Mfg. Co. Speaker: Henry L. Umbarger of the Provident Trust Co. of Philadelphia, "The Haney Business Barometer Chart."

LOUISVILLE—Dinner meeting of the Louisville Association, at the Kentucky Hotel. Prof. Charles W. Williams of the University of Louisville spoke on the industrial and economic development of Finland, attributing the low rate of unemployment to the cooperative movement in that country.

#### MARCH 20

**CAMBRIDGE**— Plant visit of the New England Association, at the Simplex Wire & Cable Co., including a high voltage demonstration in the company's electrical research laboratory.

**AKRON**— Annual Executives' Night Meeting of the Akron Association, at the Akron City Club. Speakers: Thomas D. Jolly of Pittsburgh, and George A. Renard of New York, president and executive secretary of the N. A. P. A.

#### MARCH 21

**CLEVELAND**—Dinner meeting of the Cleveland Association, at the Hotel Cleveland. Preceding the meeting, there was a trip of inspection through the various departments of the hotel, with guides to explain the operations and "behind the scenes" routine of a modern hotel.

SAN FRANCISCO—Dinner meeting of the Northern California Association, at the Elks Club. Discussion, "Steel and Hardware Problems," led by William C. Hubner and James O. Greenwell.

TOLEDO—Dinner meeting of the Toledo Association, at the Waldorf Hotel. Speaker: Yancy Bruce, metallurgical engineer of the Jones & Laughlin Steel Corp., "Machinability of Steel and Bessemer Flame Control of Steel." Motion pictures were used to illustrate the talk. Fred Braithwaite of the Manufacturers Steel Supply Co. was chairman of the meeting.

ALBANY— Executives' Night dinner meeting of the Eastern New York Association, at the Ten Eyck Hotel. Speaker: Charles R. Hook, President of the

American Rolling Mill Co., Middletown, Ohio, "Private Enterprise—Your Part in Its Protection." A cocktail hour preceded the meeting.

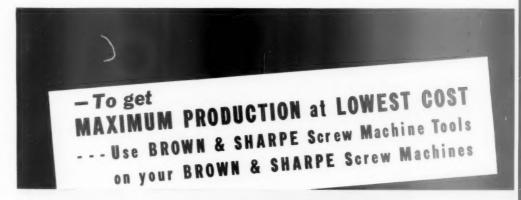
#### MARCH 25

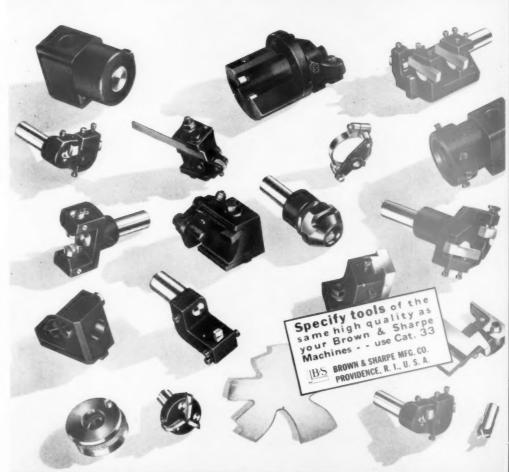
**NEW YORK**— Plant visit of the Metropolitan Purchasers' Assistants Club at the Eveready Label Co.

#### MARCH 26

OAKLAND—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Talk on the Sperry gyroscopic stabilizer.

**TULSA**—Dinner meeting of the *Tulsa Association*. Round table discussion, based on Chapters 1-3 of Lewis' "Industrial Purchasing."





BROWN & SHARPE



At 12:15 one noon Fafnir received a long distance call. A Detroit customer faced complete stoppage of production, pending delivery of a Fafnir WIR 320 Bearing (weight about 20 pounds). The bearing arrived in Detroit at 6:30 the same evening . . . was carrying its half-ton load friction-lessly an hour and a half-later. . .



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#### POSITION WANTED

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HARTFORD—Monthly meeting of the Connecticut Association. The day's program started with an afternoon inspection visit at the new plant of the Pratt & Whitney Division, Niles-Bement-Pond Co, in West Hartford. This was followed by a discussion period at the Hotel Bond, led by J. M. Brown of Veeder-Root, Inc., on the Directory of Connecticut Trade and Industry, a project of the State Development Commission. Dinner meeting at the Hotel Bond. Speaker, John O. Briggs of American Air Lines, "Aviation in Industry," illustrated with motion pictures. There was also an original one act comedy, "The Salesman and the Purchasing Agent," by Willard B. Rogers and Edward F. Ahearn, Jr.

SYRACUSE—Dinner meeting of the Syracuse & Central New York Association, at the Onondaga Hotel. Speaker: Dr. Seward Phillips Reese of Syracuse University, "We Can Climb Out." Sound motion picture, "The Inside Story," presented by Socony-Vacuum Oil Co., showing progress in industrial lubrication. Commodity discussion, led by James H. Briggs.

#### MARCH 27

ROCHESTER—Dinner meeting of the Rochester Association, at the Rochester Club. Speaker: Dr. Martin A. Brumbaugh of the Research Staff, Bureau of Business and Social Research, University of Buffalo, "The Haney Business Barometer."

**DETROIT**—Dinner meeting of the Detroit Association, at Webster Hall, Speaker: Thomas D. Jolly, Director of Purchases and Chief Engineer of the Aluminum Company of America, Pittsburgh, and President of the N.A.P.A.

#### MARCH 28

SAN FRANCISCO—"Junior Members' Day" luncheon meeting of the Northern California Association, at the Palace Hotel. Henry P. Adams, Jr., was chairman of the meeting.

#### MARCH 29

LOS ANGELES—Annual Ladies' Night reception and dinner dance of the Los Angeles Association, in the Blossom Room of the Hollywood Roosevelt Hotel. Mrs. Jack Tongue was chairman of the committee in charge.

#### MARCH 30

**CHATTANOOGA**—Meeting of District Council No. 7, at the Hotel Patten. The Chattanooga Association was host to this meeting. Current officers of the group are President, J. Merritt Gamble of the Standard-Coosa-Thatcher Co.; Vice President, N. W. Westbrook of the Southern Ferro-Alloys Co.; Sceretary-Treasurer, E. C. Doss of Chattanooga Belting & Supply Co.

#### MARCH 30-31

**ASILOMAR, CAL.**— Week-end family party of the *Northern California Association*. A full program of outdoor and indoor sports was enjoyed.

#### GUILD TO PORTLAND

L. V. Guild, for more than twenty years in charge of purchases for the Union Pacific Railroad at Salt Lake City, has been appointed Division Purchasing Agent at Portland, Oregon, succeeding the late George H. Robinson. Mr. Guild is a charter member of the Utah Purchasing Agents' Association, and has been an active worker throughout the life of that organization, serving two terms as president, and a year as Vice President for District No. 1, besides taking part in important committee work, both national and local. On February 23rd, Mr. Guild was guest of honor at a meeting of the Association, in the auditorium of the Salt Lake Tribune-Telegram, and was presented with a handsome traveling bag as a testimonial of the esteem and appreciation of his fellow members.

C. E. Galbraith succeeds Mr. Guild as Division Purchasing Agent of the Union Pacific at Salt Lake City. He was formerly Assistant Purchasing Agent in this office for a number of years, and has more recently been stationed at Omaha in a similar capacity.

#### SANITARY INSTITUTE MEETS

The annual convention of the Sanitary Institute of America was held at the Astor Hotel, New York City, March 18th and 19th. Speakers at the convention sessions included Samuel Ferer and Benjamin Laikin of the Institute; Stuart F. Heinritz, Editor of Purchasing, "Selling the P. A."; Charles M. Joseph, Senior Attorney, Wage & Hour Division, U. S. Department of Labor; and Dr. William Stericker of the Philadelphia Quartz Co., "Chemistry of Good Laundry Practice."

#### HEYWOOD TO TOLEDO

H. E. Heywood, Purchasing Agent for the National Supply Company at Tulsa, has been transferred to the head-quarters office of the company in Toledo, Ohio. Mr. Heywood has been an active worker in the Tulsa Association, and was serving as Vice President at the time of his advancement.

## PURCHASING COURSE AT THE N. E. BUSINESS SCHOOL

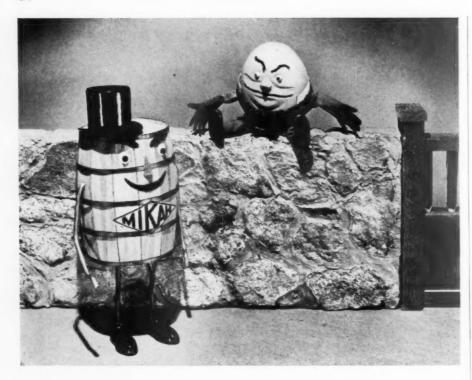
The 1940-1941 catalog of the New England Business School, 470 Boylston St., Boston, Mass., operated by the Babson Statistical Organization, shows special attention to the subject of industrial purchasing as a required course in the Business Administration Department. A broad consideration of basic purchasing principles is given in both semesters of the Junior Year, and in the Senior Year of the Industrial Management Section, there is a semester course on Commodity Analysis and one on Industrial Purchasing Problems. Class room work is supplemented by a series of planned business survey trips to representative manufacturing plants and other business organizations,



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#### NICHOLSON FILE CO. APPOINTMENTS

W · L · POZO





S · S · AZDWRWOZ

The Nicholson File Company announces the appointment of Wallace L. Pond as Director of Sales, and William W. Anderson as Sales Manager.

Mr. Pond has been with the Company since 1895 and for many years has served as Domestic Sales Manager. In that capacity he has made frequent visits to the trade in all sections of the United States and is well acquainted with the Wholesale Hardware and Mill Supply industry throughout the country.

As Director of Sales Mr. Pond will continue to head the sales organization and it is expected that he will spend much of his time in study of general sales problems and of sales research.

Mr. Anderson has been connected with the Company since 1919, spending most of that time with the Company's Canadian Branch. For the past five years he has served as Sales Manager for the Dominion of Canada.

Mr. Anderson will assume active supervision of all sales representatives of the Company and will spend much of his time in the field in company with salesmen and service engineers.

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#### SHIPBUILDING PROGRAM INVOLVES LARGE PURCHASES

The importance to American industry and labor of the commercial shipbuilding program now under way in the private shipyards of the country is emphasized by an analysis made by the National Council of American Shipbuilders of the origin and cost of materials and equipment entering into the 141 vessels which are already a part of

this program.

These vessels have been ordered by the Maritime Commission either on its own account or on the accounts of private owners. Private shipyards are spending about \$185,000,000 with other industries - approximately 50% of the total cost of the program - for materials and equipment. An additional 40% of the total cost of the program, or approximately \$148,000,000, is being expended for shipyard labor on the Atlantic, Gulf and Pacific coasts. The remaining 10% in private shipyards is taken up with various miscellaneous items, including taxes, insurance, depreciation of plant, transportation, administrative costs and profits.

In order to ascertain the source of materials entering into the average commercial seagoing vessel which forms the largest part of the Maritime Commission program, the National Council of American Shipbuilders analyzed the returns of material and equipment ordered by three different shipyards for vessels of three different types, including two cargo types and one combination cargo and passenger type.

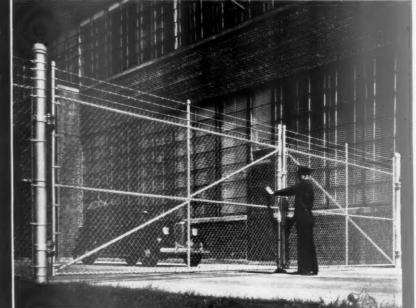
The existing Maritime Commission program includes the passenger liner 'America," costing about \$17,000,000, and twelve oil tankers, costing somewhat in excess of \$3,000,000 each. Ships of the "America" type and many of the naval vessels now under construction call for a greater variety of materials than average cargo vessels and bring into play through their elaborate specifications and requirements virtually every important industry in the coun-Taking into consideration the "America" and the twelve tankers, the existing Maritime Commission program of 141 ships is equivalent to at least 150 ships of the types on which the analysis was based. With this adjustment, the analysis is fairly representative of the program of commercial vessels now under construction.

The average cost per vessel of materials and equipment shown by the analysis was \$1,236,533. The materials entering into the three types were purchased from twenty-three of the fortyeight states, and their character is such that raw products entering into their fabrication or production come from such widespread sources that every state in the Union is supplying materials or equipment, and in most instances a variety of materials and equipment, for the present commercial shipbuilding program.

An example is electrical apparatus, instruments and supplies, which were purchased by the shipyards in the heaviest quantities from Pennsylvania, New York, Massachusetts and New Jersey. This equipment requires the use of large quantities of iron and steel castings, copper, tin, zinc, rubber and cotton insulating materials and various other products originating in different sections and purchased as basic commodities by electrical manufacturers.

The same is true of steel, which is the largest material item entering into the shipbuilding program. The average cost per vessel of steel plates and shapes was \$228,450. This means an expenditure of about \$34,267,500 by the shipyards for plates and shapes for the vessels in the existing Maritime Commission program, in addition to other large expenditures for other steel products such as rivets, bolts, pipes, tools, machinery and deck and engine room equipment.

Steel plates and shapes are being purchased for the vessels examined in the analysis from Pennsylvania, Maryland, Ohio, Delaware, Massachusetts, New



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See ACCO advertisement in this issue, page 77

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purchases for a single state were made in Pennsylvania. Other shipyards not covered in the analysis are obtaining steel from plants in other sections. Steel production requires iron ore from mines in Minnesota, Michigan, Alabama or elsewhere, as well as coal, oil, manganese and other products, and all types of transportation facilities. An evidence of the transition from

York and New Jersey. The heaviest

wood to steel in shipbuilding is seen from the fact that lumber, once the material for which the shipbuilder made his largest outlay, represents a very small portion of the outlay for the small portion of modern vessel. The decreased use of lumber results from the advances in ship construction in recent years made with fire resisting and non-combustible materials, which provide a higher degree of safety at sea. Much of the lumber involved is not properly chargeable as ship material, because it is used in the blocking, scaffolding and shoring required during the period of construction and is not embodied in the complete vessel. Lumber which was used for the vessels examined in the analysis came from Oregon, West Virginia, Massachusetts, New York and Pennsylvania.

An evidence of the variety of equipment for which large expenditures were made and of which the manufacture was widely distributed, may be seen from the following important but only partial list of important classes of material required:

Machinery, including turbines, boilers, Diesel engines, pumps, auxiliary machinery of various types with elaborate piping systems, heaters, evaporators, oil coolers and separators.

Electrical outfit consisting of generators, motors, switchboards, electric wire conduit and great numbers of electrical fittings.

Life Saving Equipment including life boats, davits, life preservers, fire fighting equipment, smoke detecting equipment, etc.

Deck Machinery including windlasses and winches.

Ventilation, insulation, refrigeration and plumbing.

Furniture.

Deck coverings.

Navigation outfit of many types.

An expenditure entering extensively into the cost of the ship which does not appear among the outlays for material transportation. Land transportation of products from the interior is required because the shipyard must be situated on the seacoast. The total transportation bill includes not only the freight paid for the shipment of products to the shipyard, but also the cost of transporting raw materials to the equipment manufacturers who supply the shipyards. It has been estimated on the basis of a previous analysis that the freight paid by the shipyard for materials and equipment amounts to approximately 4.5% of the total cost of a vessel.

All of the vessels for which purchase orders were examined in the cur-

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# Purchasing

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rent analysis are being built on the Atlantic Coast and consequently the heaviest orders for materials and equipment for these vessels are being placed in the eastern and Great Lakes areas. It was pointed out by the National Council that in the existing program, 18 vessels are being built on the Gulf of Mexico and 23 on the Pacific Coast. A considerably larger distribution of materials to the Gulf and Pacific districts can be expected on account of the vessels building in those particular sections.

If the program of the Maritime Commission calling for the building of fifty ships a year over a period of ten years is carried out as now projected, the expenditure of the shipyards for materials and equipment entering into this full program probably will exceed \$618,000,000 and wages paid in the shipyards probably will exceed \$494,000,000.

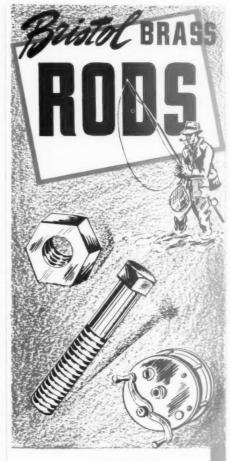
Apart from this commercial ship-building program, about \$400,000,000 has been or is being expended for materials and equipment entering into the naval vessels under construction in private shipyards or Navy Yards on January 1, 1940. About \$350,000,000 is being expended for shipyard or Navy Yard labor on these naval vessels.

Thus the combined merchant marine and naval programs mean that the ship-building industry has become the customer of other industries for supplies costing approximately \$585,000,000, and in addition is paying out about \$498,000,000 in wages for work on these programs.

#### PURCHASE STANDARDIZATION UNIT IS REORGANIZED

The Standardization Committee set up in 1937 in connection with the Connecticut State Purchasing Department, for the purpose of setting up standards of quality and type for the various commodities, materials, supplies and equipment used by the departments and institutions of the State, has been reorganized in the interests of greater efficiency, since it has been found that the original membership of seventeen department and institution heads was too unwieldly for effective operation. Under the new plan, the Committee will consist of only nine members, as follows: Supervisor of Purchases Edward Geissler, Controller Fred B. Zeller, Welfare Commissioner Robert J. Smith, Motor Vehicle Commissioner Michael A. Connor, Public Work Commissioner Robert A. Hurley, Tax Com-J. McLaughlin, Charles Warden Ralph Walker of the State Prison, President Albert N. Jorgensen of the University of Connecticut, and Dr. Clifford D. Moore of the Fairfield State Hospital. New standards for coal, gasoline, oil, tires, potatoes, fish, coffee and other items are now under consideration by the new board.

Kenneth E. Hallenbeck has been appointed Purchasing Agent for the Superior Foundry Co., Cleveland.



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#### **Obituary**

Fred W. Lingley, for thirty years Purchasing Agent of the American Hard Rubber Co., New York, up to the time of his retirement from active business in 1927, died of a heart attack at his home in Maplewood, N. J., February 16th. Mr. Lingley was one of the founders and incorporators of the National Association of Purchasing Agents, and served as vice president on the original slate of officers. He was the author of a history of the early years of the Association, published in 1925 by the Hendricks Club.

S. J. Wissing, Purchasing Agent of the Gluntz Brass & Aluminum Foundry Co., Cleveland, Ohio, and a member of the Cleveland Association, died February 28th.

A. H. Anthony, 59, founder and general manager of the Massillon (Ohio) Steel Casting Co., and for many years an active member of the Canton & Eastern Ohio Association, died February 29th in Mound Park Hospital, St. Petersburg, Florida.

George S. Perry, formerly Purchasing Agent for the Narragansett Electric Co., Providence, R. I., up to the time of his retirement from active business, died March 1st. Mr. Perry was a charter member of the Rhode Island Association.

Harry B. Bennett, Sr., formerly Assistant Purchasing Agent for the Babcock & Wilcox Co., Bayonne, N. J., died at the Jersey City Medical Center, March 1st, after an illness of two years.

C. Arthur White, 58, formerly Purchasing Agent for the Hero Mfg. Co., and since 1920 treasurer of the Leeds & Northrup Co., Philadelphia, died at the Germantown Hospital, March 3rd, after a brief illness.

Walter Q. Thomas, 65, Purchasing Agent of the Fairmount Park Commission, Philadelphia, since 1900, died at his home in that city March 6th.

Walter L. Miller, Purchasing Agent in the metal department of the National Casket Co., Pittsburgh, died at the Veterans' Hospital, Canandaigua, N. Y., March 10th, following a long illness.

Louis H. Gloe, 59, Purchasing Agent and Auditor of the Leyse Aluminum Co., Kewaunee, Wis., died March 11th, after a brief illness.

William E. Wimer, 61, formerly buyer for the Charles J. Webb Co., Philadelphia, and from 1930 to 1933 Purchasing Agent for Camden County, N. J., died at the Cooper Hospital, Camden, March 13th, following an operation.

Sid Woodbury, Jr., Purchasing Agent of Keystone Lubricating Company, Philadelphia, Pa., was instantly killed in an automobile accident in eastern Oregon on March 23rd.

# What Has Happened to the Strategic Materials?

(Continued from page 64)

itself argues, perhaps, for the United States to be on its guard concerning supplies.

The more widely distributed over the world a commodity, the less chance of a possible shortage here. Thus Siam and French Indo China have forged ahead in recent years and have enlarged the sources. The same arguments as to widening sources apply to tin. In 1930 the British supplied 66.4% of the world's rubber; in 1931, 51.9%, and last year 49%. The Dutch East Indies have come forward in production as in 1930 they supplied 29.3%, but in 1939 37.1%.

Production of synthetic rubber is not far beyond the test tube stage of theory, since less than 1% of our consumption is in that class. At the end of February, the last figures available, stocks of rubber in this country were 148,776 tons, half of which were held by manufacturers and half by dealers.

Many of our strategic materials come from the Dutch East Indies, such as tin, rubber and quinine. Those with imagination might picture an imperial Japan seizing the D.E.I. It seems at least logical that rubber has a place on the list of strategic materials.

At the start of the war, the price of rubber was 167/8 cents per pound; it went to a peak of 25 cents and has dropped back to 185/8 cents, as of Easter.

#### Manganese

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Manganese ore is considered as the No. 1 strategic material. Not a pound of steel can be made without manganese in some form, poured into the open-hearth furnace to remove impurities and facilitate chemical action. That manganese is a war metal is shown by the fact that whereas the price of ore on Sept. 1, 1939 was 25 to 30 cents per unit it is now 50 to 55 cents, or double. The advance in price, too, has taken place despite the fact that stocks in bonded warehouses in the United States at the end of 1938 were the largest on record at over 842,000 tons, the last figures available, though the record-breaking steel production of the last quarter of 1939 probably ate into those stocks markedly.

Imports into the United States in 1938 were 483,588 tons, the Soviet Union furnishing 166,043 tons, Cuba 131,423 tons, the Gold Coast 126,858 tons and Brazil 29,698 tons. Manganese is produced in commercial quantities in eight of our states, but in 1938 U. S. output was only 25,321 tons as against the all-time peak of 305,869 tons in 1918, when our own participation in a war stimulated production.

The procurement division of the Treasury Department has undoubtedly spent more of its \$10,000,000 appropriation on manganese than for any other material. Ore from the Soviet Union has the reputation of being the richest and best and,

despite complexities in shipping these days, it manages to come steadily into the United States though not in normal quantities.

We asked a leading manganese authority whether in case we were at war, United States, Cuban and Brazilian manganese would suffice us. His answer was very positive on the negative side. It is probably more essential that we hoard manganese than bury gold and silver in the ground in Kentucky. For the past twenty years American inventors and metallurgists have claimed new processes for refining the low grade American ores, but none of them have proved outstanding, if successful at all,





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However, the flotation process applied to Cuban ores has been a signal success and has accounted for the phenomenal growth of Cuban production. Engineers had said that this process could not be applied to manganese, though it is used for many other metals and minerals.

Stocks in this country now are large for peace times, but probably on the light side should the United States be embroiled in a major war. Many commodities have a scrap value and are everlasting, but for the most part only virgin or primary manganese can be employed.

Most metals have an understudy. Thus aluminum can substitute for copper; cadmium for tin in the making of bearings. In the making of alloy steel there is a choice of metals. Yet there is no substitute for manganese for the removal of oxygen and sulphur and other unwanted elements in steel making.

#### Tin

A moderate amount of tin has been purchased by the procurement division of the Treasury Department, but apparently only a fraction of the amount of manganese which is "Strategic Material No. 1." Moreover, in recent years, the Navy Department has been buying tin persistently, largely for storage, as is surmised by instructions to ship to the Brooklyn Clothing Depot rather than to the Brooklyn or other navy yards. Some estimate that the Navy has accumulated enough tin for ten years of ordinary peace usage, assuming no increase in our Navy, and perhaps two years' supply should our country be involved in a major war. Moreover it is practically certain that private consumers of tin, such as steel producers, have many months' supply on hand.

Tin is strategic because of the canned foods which are fed the soldiers; the solder, bearings, collapsible tubes and various parts of machinery for which tin is practically indispensable. Recognition of the danger that our supply might be cut off was reflected in the soaring of prices when the war started. Within a few weeks, at the start of the war, the price of spot tin rose from 50 cents to a nominal 75 cents per pound, though futures positions never even approximated the spot price. Since then the market has calmed, with the price around 46 cents per pound.

During the world war the price of tin rose from £150 per ton at London to nearly £400 per ton at

the middle of 1918. However the largest world's visible supplies at any time during the war were 22,-000 tons during 1916. When the present war started, the world visible was about 38,000 tons. Tin production is much more widely distributed than during the world war, too, and there would seem the chance of securing the metal from some part in the globe even during a war in which we may be engaged. Detinning of scrap has also progressed since the world war, and substitutes are better developed. Thus cadmium is often replacing tin in machinery bearings. Glass or fibre containers can replace tin cans, as is being demonstrated in peace

The United States Steel Corporation buys tin in the Far East and brings it home in its own ships. Of the 210,000 tons of normal tin production in a year, the British control about 150,000 tons. Experience shows that the United States generally allies with England in a war, which may mean something in considering the strategic situation in tin.

The United States produces practically no tin. In one recent year 100 tons were produced in Alaska. A company at Marquette, Mich. recently submitted bids on tin to the Navy Department, but the Navy apparently did not have confidence in this theoretical source.

When tin was high priced a few months ago, some of the American metal smelting companies started pilot plants to experiment with refining Bolivian and other tin ores here—however, the ore must still come from far away.

Tin arrivals in the United States have been exceedingly large of late. Consumers are well supplied and stocks of finished goods, such as tin plate, are large. It would seem, therefore, that prices are destined to remain moderate, at least under 60 cents per pound, come what may.

Tin is virtually the only one of the strategic materials now priced below the level in effect last Sept.

1. It was then 49½ cents per pound as against 46¾ cents when this is written.

#### Quicksilver

Quicksilver or mercury has reacted to war conditions by the soaring of prices. When the war started the price of quicksilver was \$90 to \$92 per flask of 76 pounds, but today is \$185 to \$190 per flask. Thus it is in the class with manganese for having doubled in value. In a military way it is used in



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the manufacture of fulminate, for detonating high explosives and fixed ammunition, for dental amalgam, antifouling paint for ship bottoms, storage batteries, barometers, etc. Substitutes for some of these purposes may be used, but not for the greater part of consumption.

The normal annual consumption of mercury in the United States in recent years has ranged from 25,-000 to 35,000 flasks, of which half has been imported. Spain contains the richest ore, about 8% metallic; Italian ore ranges up to 2%; Mexico 1%; and in the United States less one-half of 1%. Hence it is logical to import a great share of our consumption. Mercury is produced in four states principally in this country, with at least half the output from California, However the rather primitive methods of refining makes labor costs rather high, American wages being what they are.

Moreover experience has shown that the grade of ore treated in this country has declined steadily and now rarely exceeds 10 pounds of mercury to the ton. In many mines the yield is three to five pounds to the ton, Without the tariff of 25 cents a pound, imposed in 1922, it is doubtful whether any mines in the United States would be active. Technological improvements in processes have at least partly kept pace with the deteriorating ores.

Producers' stocks in the United States at the end of 1938 were not much in excess of 1,000 flasks and stocks in domestic warehouses totaled 553 flasks, according to the Bureau of Mines. However by the end of January, 1940, according to preliminary figures of the Bureau. combined consumers' stocks were 10,900 flasks, while dealers were estimated to have 2,100 flasks, sufficient altogether for five and a half months' use at present rates of consumption, which by usual commodity standards is a large supply. In fact the Bureau of Mines comments: "There is nothing in the American statistical situation to account for the big price advance."

The war has stimulated imports into this country to a marked degree, and prevailing high prices have stimulated the domestic output. American production in January was 1,800 flasks as against 1,500 flasks for September. Moreover American consumption, which had been 2,900 flasks in September, dropped to 2,300 flasks for January.



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Spain's quicksilver output in December was 12,000 flasks, a record rate of production. Normally Spain produces 40,000 flasks per year.

#### Antimony

Antimony is used chiefly for hardening the lead plates of storage batteries and in Babbitt metal used in bearings, though a mixture of cadmium and silver has in many instances replaced Babbitt. At any rate the United States produced less than 2% of the world's antimony in 1938, Bolivia producing 29%, China 26%, and Mexico 25%.

Chinese antimony has become less a factor in American consumption since Japanese war operations hindered production and shipments. Though an increasing amount of refined antimony is produced in this country we still depend largely on outside sources such as Bolivia and Mexico for our ores. Mexican supplies are not always certain, while much expense and red tape frequently involve their exports, as the United States has learned. Bolivian sympathies often seem to lean towards the totalitarian states and the United States cannot depend too naively on that supply.

However, there has apparently been no alarm in this country concerning future supplies. Thus the price of American-refined antimony is now 14 cents per pound as against 12 cents at the start of the war. The rise took place during war's first month and the price has been steady since.

Refined antimony from Mexican ores is now produced extensively at Laredo, Texas, while recently that great metal company, the American Smelting & Refining Company, has been producing it at Perth Amboy, N. J. A fair tonnage is produced in California.

Production from American ores has been disappointing. Thus in 1915, when high prices stimulated home demand, total production was only 4,900 tons or about 35% of domestic requirements in that year. Hence it seems logical for our government to accumulate supplies.

It is estimated that private supplies in this country have increased perhaps as much as 50% over a year ago and the situation generally seems well under control.

Lyman Lamb has been appointed Purchasing Agent for Oswego County, N. Y., succeeding Loren J. Parsons, who has retired from active service after nineteen years in the office.

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#### SILVER BUYING DEFENDED

Continuation of government purchases of both foreign and domestic silver was urged by A. G. Mackenzie, secretary of the Utah chapter of the American Mining congress, addressing the Purchasing Agents' Association of Utah, March 21st.

Purchase of foreign silver on the open market as at present," he asserted, is analogous to importation of any other foreign commodity.

"It is particularly helpful because it provides foreign countries with exchange with which to purchase United States products."

He pointed out that with the present price of silver on the open market, the United States pays 34.75 cents per ounce for foreign silver, giving silver certifi-

cates in exchange.

"If the foreign countries ever want to redeem these silver certificates," Mackenzie pointed out, "they would get back approximately one-fourth the amount of silver originally delivered to us, since we coin silver at the ratio of \$1.29 per ounce."

No expenditure either of tax or treasury revenues is involved in purchase of either foreign or domestic silver, Mr. Mackenzie said, since certificates are issued to cover the amount purchased,

The Senate banking committee has reported favorably a bill to abolish the government program of purchasing foreign silver, despite support of foreign silver purchases urged by Secretary of Treasury Henry Morgenthau.

Mr. Mackenzie said the domestic silver purchasing program under which home producers are given 71.1 cents per ounce for newly-mined silver, is of enormous value in providing employment

and stimulating industry.

He cited some of the handicaps which have been imposed on the mining industry. Despite higher daily wages and due to restrictions imposed by the federal wage and hour law, the composite average annual income of Utah metal miners and muckers was \$265 less in 1939 than in 1929, he said. This has resulted from placing the men on a five-day week instead of a six-day week.

Despite the reduction in number of hours worked by miners and muckers, the number of such workers decreased during the 10-year period, he pointed

J. K. Thompson, Vice President in charge of accounting and finance of the Erie Railroad, with headquarters at Cleveland, has been placed in charge of purchases, in addition to his previous duties. Mr. Thompson has been with the Erie since 1907. He became comptroller in 1931 and Vice President in

R. D. McLean has been appointed Purchasing Agent of Macdonalds Consolidated, Ltd., Vancouver, B. C., succeeding W. W. McKinnon, who has been transferred to the sales department of the company.



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SEYMOUR BRIGHT NICKE

#### INVENTORY RISE IS CHECKED

The accumulation of inventories in manufacturers' hands, which got under way last September, was brought to a halt last month, according to the preliminary indices compiled by the Na-Industrial Conference Board. tional The value of inventories during February declined 1% from January.

The Conference Board's index of manufacturers' inventories for February was 130% of the 1936 average as against 131 in the preceding month, and 110 in August.

Since Purchasing Agents are currently pursuing a policy of maintaining rather than reducing inventories, manufacturers' stocks are likely to remain at

a stable level over the near future. The accumulation of inventories since last September lasted five months before being reversed. This contrasts with the 1936-37 inventory "boom" in which inventories were accumulated over a period of eleven months. The Conference Board index reached a peak of 145 in October, 1937, as against 131 achieved during January of this year.

In the 1936-37 inventory rise, there was no interruption in the upward trend for eleven months during which time the Conference Board's index rose 41%. For the five months from September, 1939, through last January the index gained 18%, and in February stood 10% below the high of 1937.

The difference in the movements of the inventory index in the two periods is partly explained by differences in trends of production. In the closing months of last year, factory operating schedules were more rapidly adjusted to the sharp rise in demand and output was raised to a higher level than in the 1936-1937 business recovery. This indicates that the effect of the heavy buying wave was more quickly reflected in inventory positions than in the earlier

The value of new orders, according to the Conference Board's seasonally adjusted index was 10% less than January but showed a gain of 10% over February, 1939.

The marked increase in the rate of decline in February caused the index to fall to about the level of August, 1939, while the volume of manufacturing production was 4% above the total for that month. Following the outbreak of war, the adjusted new orders index (1936=100) rose sharply to 164 but by the end of the year had fallen to 110. The January index at 108 showed little change while the February index at 97 was only 1 point higher than that for August, 1939.

Manufacturers' shipments continued to decline in February, but were better maintained than the volume of production. The Conference Board's index of the value of shipments was only 4% lower than in January, while the Federal Reserve Board's index of production of manufactured goods dropped 8%. Compared with February, 1939, the shipments index held the substantial lead of 20%.

#### NEW COPPER PERFECTED AFTER TEN YEARS EXPERIMENTATION

Announcement of the perfection of a new type of copper after a ten-year research and development program costing well into seven figures was made last month by Mr. Wylie Brown, President of the Phelps Dodge Copper Prod-

ucts Corporation.

The new copper is known as "PDCP," created by research to meet the need of the electrical industry for a copper of superior characteristics. Greater conducting power, ductility, fatigue resistance and surface quality are the outstanding characteristics of this modernized metal, designed for dependable performance under the present day demand for high speeds and less space.

Made under a closely guarded patented process, the new copper in addition to its superior characteristics, is free of the imperfections of ordinary copper, which according to engineers, have been responsible for a large percentage of electrical failures.

The improved metal is made without melting from electrolytic cathode copper, which is plastically converted by tremendous pressure in a reducing atmosphere at elevated temperature into smooth, dense copper bar, rod, strip or other desired commercial shapes.

Basically of the oxygen free type, it is the only solid copper in the world which is not melted subsequent to the electrolytic purification process. Hence, the intrinsic purity of electrolytic cathode copper is not only retained, but is greatly enhanced at the high temperature of the reducing gas used in

the process.

One of the principal difficulties of engineers and maintenance men concerned with copper windings in motors and transformers, is the existence of surface imperfections in the copper, which by vibration and magnetic stress eventually penetrate the insulation and cause failure by short circuits. These imperfections may originate in defects arising in the casting process and are normally present in the best commercial copper wire bars. In addition, slivers and oxides are developed during the process of hot-rolling the cast copper bars into rods, and are more or less inherent in the hot-rolling process. The new method eliminates not only the casting process, but also hot-rolling. It has, in consequence, made possible the production of a sliverless and dustless copper surface heretofore attainable only in the laboratory.

Among many other successful applications, it has given outstanding performance in high-frequency and high voltage transformer windings. It is especially adapted to the high tension and submarine cables, refrigeration and air-conditioning installations. It is particularly applicable for service where severe vibration is a problem, such as, aeroplane and electric locomotive wiring, and railway signal bond cable, where a single broken wire can cause the loss of many lives that unknowingly depend for safety upon the con-

tinuous performance of a single thread

Ductility far greater than ordinary copper permits sharper bends, easier forming and drawing. The metal is said to approach the malleability of gold. This property, combined with greater conducting power for electricity, has made the improved copper popular for use in a multitude of complicated electrical parts and devices.

A new manufacturing unit was constructed at the Bayway mills of the Phelps Dodge Copper Products Corporation for the exclusive production of this PDCP copper in various commer-

cial shapes and sections.

#### AIR EXPRESS SHIPMENTS UP 33.5% IN JANUARY

Air express shipments in the nationwide service of Railway Express Agency totaled 76,682 in January, an increase of 33.5% over January, 1939.

Gross revenue for January was up 37% over the corresponding month a year ago, the report said.

#### LIGHT WHEELS

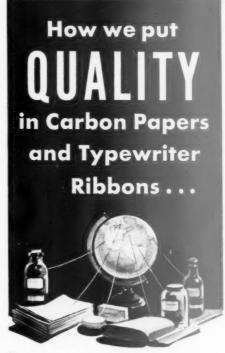
An interesting technical development is the use of aluminum for wheels. It is, of course, to be expected that wheels of this material would be employed in the airplane industry where lightness is such an essential factor. The success of the aluminum cast wheel is well-known in that industry.

However, it is not so generally known by the public and even by some engineers that the use of cast aluminum wheels for buses is rapidly growing

wheels for buses is rapidly growing.

One of the reasons for the interest of engineers in aluminum wheels is the fact that they are anxious to reduce unsprung weight as much as possible. Wheels represent 100% unsprung weight. When a wheel is thrown upward by an irregularity of the road surface, the shock to the vehicle, its passengers and its cargo, is directly proportionate to the weight of the wheel. By reducing this unsprung weight through the use of aluminum the riding qualities are proportionately improved, saving wear and tear on the cargo and promoting the comfort of passengers.

Engineers point out that there are a number of conventional wheels of aluminum in production at this time and that the tendency is increasing. It is possible, for instance, to make satisfactory disc wheels and also to use aluminum brake drums with iron liners shrunk and bolted in place. This type of construction gives very satisfactory results from a brake standpoint and results in approximately 30% saving in weight. Generally speaking, the use of aluminum wheels on commercial vehicles will result in 40% or more saving in unsprung weight as compared with steel. This, of course, results in a relative decrease in road shock and contributes to low vehicle maintenance, economy and flexibility of operation.



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#### SWEDEN WILL START ARMAMENT BUYING

Previously reported in these columns was the recent American visit of Sweden's Prince Bertil, presumably to lay the foundation for an arms purchasing mission in this country on the model of the Anglo-French organization. The results of that visit and the recommendations resulting from it, are apparent in recent news despatches from Stockholm, which state that Sweden, its rearmament program moving quickly on the heels of the Finnish peace, has created special munitions department in the Ministry of Finance. Egon Gummason, who is closely connected with the Bofors Arms Company, prominent Swedish armament concern, has been named administrator of the new department.

Swedish newspapers are referring to Gummason as "Minister of Armaments," indicating that the creation of this new department in the Government is expected soon. Politically, the new administrator is regarded as a conservative, but he is considered more as a technical expert than as a political figure.

It is understood that the munitions department has been established primarily for the purpose of making purchases abroad, and secondarily for the coordination of Swedish industry for arms production. Sweden is well equipped for the manufacture of artillery, anti-tank and anti-aircraft weapons, but has immediate need for airplanes. shells and other ammunition supplies.

Under these circumstances, Gummason's first responsibility is deemed to be purchasing in the United States, on the basis of Prince Bertil's reports.

Bertil's report informed his Government that now is an opportune time for neutrals like Sweden to make major arms purchases here, and that his country would enjoy a favorable position, even precedence over England and France, in view of the public debate in this country concerning the policy of furnishing war materials to belligerents. He is said to have recommended that a purchasing commission on the Anglo-French model be sent here quickly so as to be on the spot for making purchases as the opportunities arise.

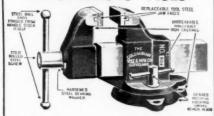
Sweden's lack of shell and aircraft production is attributed to lack of certain minerals heretofore obtained from England and Germany, but no longer available from these sources.

J. A. Raterman, Purchasing Agent for the Monarch Machine Tool Co., Sidney, Ohio, has been elected a vice president of that company, with supervision over purchasing and plant engineering. P. A. Abe, formerly works manager, has been named vice president in charge of engineering and production.

Arthur W. Goodearl, Purchasing Agent of E. A. Pierce & Co., San Francisco, addressed a recent meeting of the Carbon & Ribbon Dealers Association of Northern California, on the topic, "How Can the Salesman Help the Purchasing Agent, and in So Doing Help Himself?

#### COLUMBIAN

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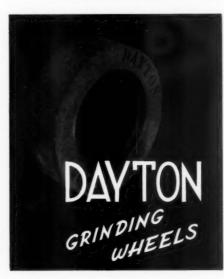


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#### U. S. MANUFACTURING IS HIGHLY CONCENTRATED

Concentration of manufacturing establishments in about 10 per cent of all the counties in the United States is shown in final reports, analyzing economic trends in various manufacturing localities throughout the eight-year period, 1929-1937, just made public by the Commerce Department.

The two reports cover the number of manufacturing establishments in operation and the number of wage earners employed during the period reviewed. Previous studies by the department have covered economic trends indicated by wage comparisons, value of manufacturers, and value of raw materials.

A summary of the two final reports was given by the department as follows:

1. That 75 per cent of all the manufacturing establishments in the country in 1937, totaling 125,064 plants, was concentrated in 331 of the nation's 3,070 counties. Of this group of 331 counties, seven had 41,469 establishments, or about 25 per cent of the national total. These seven counties, in the order of their national ranking, were New York, N. Y.; Cook, Ill. (Chicago); Los Angeles, Calif.; Philadelphia, Pa.; Kings, N. Y. (Brooklyn); Wayne, Mich. (Detroit); and Suffolk, Mass. (Boston).

2. That 75% of the industrial wage earners employed by manufacturing establishments in 1937 was concentrated in 200 of the 3,070 counties. Of these 200 counties, eleven accounted for the employment of 2,191,193 persons, or about 25 per cent of the total for the entire United States. The eleven counties, again in the order of their national ranking, were Cook, Ill.; Wayne, Mich.; New York, N. Y.; Philadelphia, Pa.; Alleghany, Pa. (Pittsburgh); Cuyahoga, Ohio (Cleveland); Kings, N. Y.; Los Angeles, Calif.; Milwaukee, Wis.; St. Louis City, Mo.; and Providence, R. I.

3. A second group of forty-three counties had another 25% of the national total of manufacturing establishments in operation in 1937, and a third 25% of the plants was located in 281 counties. The remainder were scattered through 2,613 counties, there being 216 counties in the country without manufacturing plants in operation in 1937.

4. A second group of forty-two counties furnished employment for a second 25% of the total number of industrial wage earners employed in manufacturing plants in 1937. A third 25% of the wage earners were employed in an additional 147 counties. The remainder were scattered through 2,644 counties.

Every county in the group of 331 accounting for 75% of the total manufacturing plants showed a decline in the number of establishments operating in 1933 as compared with 1929, losses running from one to more than 50%. On the other hand, 314 of the 331 counties registered marked increases in plants

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AUTO SCHEDULES DOWN Automobile manufactures during March

totalled approximately 440,000 cars and trucks. April schedules are expected to show a counter-seasonal decline of about 10% in production. Expansion of retail sales would tend to revise present schedules upward, but even if this should develop, it is not expected that April production will exceed 400,000 units. Meanwhile the drafting of final designs for 1941 models is getting under way, and orders from the automotive industry for new machine tools have been in good volume



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between 1933 and 1937 due to the opening of new plants or the reconditioning of old ones. Further, 70 of the 314 counties registered gains of from 25 to 50%, 16 counties increased the number of plants 50 to 75%, and five counties had increases of more than 75% in operating plants.

Examining the industrial employment report, the department noted that in 1933 losses in the number of wage earners compared with 1929 ranged from 27.5% in Providence, R. I., to 43.8% in Milwaukee, Wis., and six of the eleven leading counties had a reduction of more than one-third in the number of wage earners engaged in the manufacturing industry. Conversely, all eleven counties showed considerable progress in regaining their losses from 1933 to 1937.

In the group of 42 counties employing the second 25% of the total of industrial wage earners, 19 counties suffered losses of employment ranging more than one-third between 1929 and 1933, but in the period from 1933 to 1937, every one of these counties showed recuperation to some extent.

Of the 147 counties comprising the third quarter of industrial wage earners, 83 counties, or 56.4%, not only bettered their 1933 employment figures in 1937, but also showed increases over the number employed in 1929.

#### TIN RE-EXPORTS

Despite the national policy for conservation of tin supplies as a strategic material in the program for national defense, exports of tin from the United States amounted to 949,183 pounds in February, valued at \$395,088, according to a report of the Department of Commerce. The total of these re-exports, however, was less than a third of the January total, which amounted to approximately 1,500 tons. The decline is attributed to activity of the State Department in discouraging export of strategic materials.

The exports went to many countries. including Canada, South American and European purchasers. More than half-509,205 pounds-was shipped to Russia. The second largest total-216,805 pounds -was shipped to Sweden. Other shipments are reported as follows: Canada, 140,075 pounds; Uruguay, 44,702 pounds; Finland, 15,258 pounds; Brazil, 10,594 pounds; Norway, 5,584 pounds; Estonia, 4,388 pounds; Denmark, 2,572 pounds.

#### BUYER CONDUCTS PACKING AND SHIPPING CLINIC

Stanley W. MacKenzie, Division Purchasing Agent, Mechanical Goods Division, U. S. Rubber Co., Passaic, N. J., led the "Packing and Shipping Clinic" at the tenth annual Packaging Conference of the American Management Association, March 28th. Mr. Mac-Kenzie's division ships products ranging from the size of a pencil eraser to hose which weighs ten tons per length, and all types of packing and shipping material have been utilized in solving this complex problem. In the course of his talk he displayed and discussed twentytwo types of shipments.

#### PHOTO CREDIT

The photographic illustrations used in connection with the article on wool marketing in the February issue of PURCHASING (page 49) were furnished by the National Association of Wool Manufacturers, 386 Fourth Ave., New York, N. Y. A statement to that effect was inadvertently omitted from the article itself, and we take this opportunity to make the acknowledgement.

Harold K. LaRowe, Assistant Purchasing Agent of the Dairymen's League Cooperative Association, and president of the New York Purchasing Agents Association, addressed a meeting of the buyers in the New York City Department of Purchase, March 6th, on "Selecting Sources of Supply."

Robert C. Kelley, Purchasing Agent of the Converse Rubber Co., Malden, Mass., and Chairman of the N.A.P.A. Textile Committee, spoke on "Problems in Buying Industrial Textiles" at a meeting of the Textile Club in New York City, March 12th.

#### Salesmen Need Help

(Continued from page 59)

keeping them alert. If alert for us, they will be equally awake for other customers, and that will make money for them.

The sense of personal importance of a salesman, and therefore his forward look and his attention to details, is built by holding him responsible and by letting him function.

When something goes wrong, we like to call up a salesman's house and ask for him personally.

And when we get him, we like to let him . . . or to help him . . . do the things which will make him look well to his own boss.

#### A Practical Example

In a recent case, a shipment of goods had not been properly assembled when we got it. The mistake was a small one which should never have passed the supplier's inspectors, but nevertheless the dear old human equation had let it through.



This advertisement is addressed to you -because your job is to buy quality at the right price. We offer this as convincing evidence that you get both with YALE.

85% saved in car unloading time—and only one truck does it! Sounds incredible-but here's the testified fact.

Says the company involved, "Formerly this particular job took 32 hours to complete. Now, our Yale Electric Truck cuts the time to two and a half hours-saves us \$18 on every carload handled!"

Supposing you could cut your handling costs that way too-wouldn't it be something worth investigating? Well, you can! Call our nearest representative. He'll tell you how.

\*Name on request

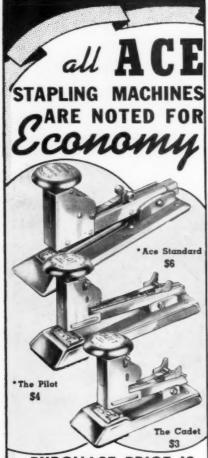


THE YALE & TOWNE MFG. CO.

PHILADELPHIA DIVISION, PHILADELPHIA, PA., U. S. A. IN CANADA: ST. CATHARINES, ONT.



Makers of Yale Hand Chain Hoists, Electric Hoists, Electrical Industrial Trucks, Hand Lift Trucks and Skid Platforms



PURCHASE PRICE IS YOUR ONLY COST!

Ace sturdy construction insures continuous, perfect performance. Users of more than a million Ace machines know they never need repairs nor replacements. First for quality performance . . . first for economical operation, your purchase price is the only cost of an Ace.



The house in question might have taken the goods back for credit or replacement. But the salesman asked our permission to take his own coat off and correctly assemble those goods right in our own plant. And we said "yes." It gave him a chance to show us how well he knew his stuff, and even better, to tell his boss: "The customer is satisfied . . . I satisfied them." And we got the goods in the shape we needed them, at top speed.

#### **Handling Tests**

Salesmen like to offer materials for test. Our laboratories like to test them. But we keep quickly available records of tests. If something has been tried, we can shut off the waste of time and effort a salesman would make in following up a second trial. And in saving his time, we are giving immediate and positive cooperation and help.

We so arrange the cooperation between our technical men and the salesmen, that the salesmen are not burdened with knowledge of processes we wish to protect. Salesmen in general can be trusted to protect confidence. But the natural instinct of a salesman is to do or say anything that will get him an order from us or from our competitors. We do not know whether or not Freud would find that holding back information gives salesmen "complexes" of any kind, but we withhold that burden.

#### Finding the Answers

At the same time, when we have problems which are not too secret, we let the visiting salesmen cooperate by browsing around for solutions. They find plenty of answers for us, and they get from us plenty of answers to questions their other prospects have asked them. This is an extensive multi-way inter-industry cooperation, with its most valuable result the confirming to the salesmen of their knowledge of their own general usefulness.

Our files are helpful to salesmen, especially our specialized commodity file. This is kept subject by subject and field by field, and covers many years. With it we can show a salesman the origin of an idea, and let him start from the same point that we did when he brings us up to date on the matter. Or we can cite chapter and verse in clearing up any number of points that may be at issue. This is but one more tool in making the development of relations a cooperative function in which the salesman takes a full and responsible part.

#### Real Sales Help

The salesman who knows us, knows that if he convinces our purchasing department then our buyers will help with the selling job which may have to be done to other executives in our company. And that is a real sales help.

As an example, there was a material on which a new source of supply might save about \$150.00 per year. The foreman who must use this material did not want to take the responsibility for mak-

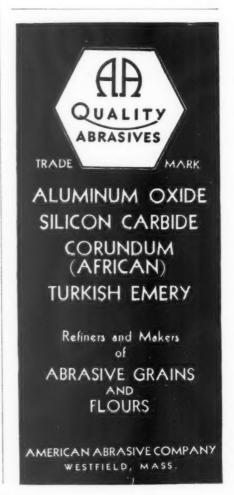
Mr. P. A.-

The Mexican jumping bean is a cheap spring but its activity obeys no impulse useful in mechanics. Three-dimensional-springs may "obey that impulse" but none too well and not for long. Four-dimensional-springs are a maximum contribution to long life and trouble-free performance.

Send for our Scientech spring specification form.

LEE SPRING CO., Inc.
30 MAIN STREET
BROOKLYN, NEW YORK









Chicago

MANUFACTURING PACKAGING OR SEALING.

HAVE YOU ANY ADHESIVE PROBLEM

Consult

#### THE COMMERCIAL PASTE CO.

Adhesive Specialists COLUMBUS, OHIO

ing the change, as a lot more than \$150.00 could be lost if anything went wrong.

#### Conference Arranged

The purchasing department arranged a conference between itself, the foreman, and a top manufacturing executive. This fixed matters so that the foreman could try the new material without "sticking his neck out." It was then made clear to the salesman of the material that his reputation and that of his company with the very heads of the factory was at On the salesman's personal restake. sponsibility the material was tried and the saving made.

This was a small saving. But in many instances the foreman's fears of a small matter uncover some major bad condition in his department. something that had not been noticed because his knowledge and skill prevented it from doing its potential damage. The small matter then shows the way to large savings. Small cooperations given to salesmen can count in larger affairs.

There are personal characteristics of company executives, about which the Purchasing Agent knows more than any visiting salesman is ever likely to learn. Some executives are too willing to change, others too reluctant. Personal experiences and viewpoints may be limited. The buyer who goes to bat for a possible saving, does so in full knowledge of these things. He can be of great help to the salesman wise enough to help him.

Centralized purchasing gives many chances to help salesmen, and to let salesmen help buyers.

#### Interchange Information

Flintkote purchasing must cover branch plants all over the country. It is as centralized as it can be, yet leaves considerable local buying and functioning.

The buying offices continually interchange information about experiments. buying problems, and methods. And these reports help in cooperating with salesmen.

One factory found a way to readjust machines and save up to 24% per year on a supply that all plants use. Immediately all plants started to see if a like saving could be made by them. The successes and failures secured by each will be made available to all. And not the least important of the interchanged information, will be what has been learned by cooperating with salesmen on the problem.

A salesman may call on one plant with the solution of a problem that that plant does not have. But there in the inter-office report is the record of a plant having that problem. The man is told where his company should go and whom it should see. Without this help it might take weeks for his company to uncover that situation. And meanwhile, both buyer and seller would be losing time in getting the benefit of the service

Probably the ultimate form of helping salesmen is to know their personal idio-

#### You May Bowl 300 ...



Your Score On TYPING COSTS?

IND the right size and weight ball, get some coaching, and with practice you can become a good bowler. Find the right weight and grade of carbon paper and typewriter ribbons, have your needs accurately prescribed for, and you can get better typing results at lower cost.

That is the simple enough solution which thousands of firms have discovered by calling in a Columbia representative. Columbia's experience with every conceivable business typing need, combined with Columbia's research, resources and experience in manufacturing, have enabled us to save thousands of dollars for users of ribbons and carbons.

Applied to your own particular requirements, Columbia quality and service may well prove to be a revelation in satisfactory results. Be sure to see the Columbia sales representative when he calls. Or write or phone the nearest Columbia office for suggestions, without obligation.

RIBBON & CARBON MANUFACTURING CO., INC.

Main Office and Factory:

GLEN COVE, L. I. NEW YORK

#### Branches

58-64 West 40th Street, New York City
204 Dwight Building, Kansas City, Mo.
327 South LaSalle Street, Chicago, Ill.
155 West Congress Street, Detroit, Mich.
227 East Michigan Street, Milwaukee, Wis.
200 Plymouth Building, Minneapolis, Minn.
107 Union Street, Nashville, Tenn.
314 Pennsylvania Building, Philadelphia, Penna.
908 Standard Life Building, Pittsburgh, Penna.

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# CRANE'S PAPERS for PERMANENT RECORDS



The better the paper, the longer the record lasts, the more handling it stands. Crane's Papers made of rags only (cotton and linen fibres) are the most durable and lasting papers for permanent records. Time itself — and hard usage — prove this. Many Purchasing Agents have proved it, too, by adopting Crane's for important records and muchhandled forms.

We shall be glad to help you select the paper best suited to your forms and records, to insure their good condition many years hence. Your inquiry is invited.



MADE IN DALTON, MASSACHUSETTS
SINCE 1801

syncrasies. It is as important for a buyer to know his salesmen as for a salesman to know his buyers.

#### How to Know Salesmen

Knowing salesmen means that the buyer can get them started onto the right tracks. A salesman is on the right track when he is functioning at his best.

Some salesmen have unfortunate tricks of opening interviews with boring trivialities. The wise buyer helps by getting them started to talk business without jolting them out of their self confidence.

There are men who need the dignity of being called "Mister," while others are at ease in the informality of first names. The cooperating buyer handles each man in the way that will lead that man to do and to give his best. It is the best alone that the buyer wants from the salesman.

The young salesman who is just getting his start needs guidance. He is to be, perhaps, the old experienced hand of tomorrow. The more the buyer teaches him today while he is still plastic, the more useful and profitable he will be in the years to come.

#### Conclusion

No matter how big and scientific may grow our facilities, business transactions will be governed and handled by men. The buyer who helps salesmen, gets the best from men. Therefore his company profits.

And practical profit is the reason why Flintkote helps visiting salesmen. We like to be human to our fellow men, just for the happiness of it. But the real results of helping salesmen, show up sooner or later on the balance sheet.

#### How Bausch & Lomb Company Buys

(Continued from page 51)

Mark all catalogs 'For Purchasing Dept'."

The regular use of this follow-up gives assurance that the most recent catalog information is available to the buyers at all times.

#### Sample Orders

As in many purchasing departments, there is frequently an occasion to secure or accept samples of various products for investigation, test, and trial. Recognizing the importance of this situation, its potential advantages as well as the expense involved in making adequate tests, and the implied obligation, it is the policy of the Purchasing Department to handle all such transactions as a regular purchase, issuing a purchase order for the material and paying for it. To carry out the purpose of this procedure, provision is also made for following through to the test and report.

For this purpose an interdepartmental form known as the sample delivery ticket (Figure 8) has been devised. It



THE AMERICAN PAPER GOODS CO.



# BIG NEWS about marking HOT METAL!

Paintcil identifies hot metals! One type resists pickling bath and all weather conditions—permanently. The other is automatically removed in acid pickling process, but firm and legible in the plant.

Both types easily applied—like writing with a pencil. Paintcil doesn't run or discolor. Used by world's largest steel companies.

# PAINTCIL

Paintcil covers practically every condition of marking that exists in a steel plant. Write for full information and samples. No obligation, of course.

HELMER-STALEY, INC.
323 W. Huron St. Chicago, III.

We have been manufacturing chemists since 1874, and have been making Underwood's Everlasting Writing Inks ever since.

Are your pen and ink records really permanent? If these records are valuable and you wish to retain them for years, you had best check on the kind of ink used by your establishment. Many inks are called permanent, but are they? There is considerable difference between that kind and UNDER-WOOD'S BLUE BLACK EVER-LASTING BANK INK. Underwood's ink will last as long as the paper on which it is written, and the writing will be as legible as the day it was written.

Costs \$1.00 a quart. It writes a deep Cobalt Blue, turns to an intense permanent black. Many awards of merit have been given us from expositions both in the United States and Abroad.

MAIN OFFICE: 30 VESEY ST., N.Y.C.
LABORATORIES AND FACTORIES
141-149 Grand Ave. 88-90 East Richmond St.
Brooklyn, N. Y. Toronto, Canada

SALES OFFICES
1001 Chestnut St. 150 Congress St.
Philadelphia, Pa. Boston, Mass.

#### JOHN UNDERWOOD & CO.

MANUFACTURERS OF UNDERWOOD'S EVERLASTING BLUE BLACK
BANA INK. TYPEWRITER RIBBONS AND CARBON PAPERS.

# COILED WIRE SPRINGS

# WIRE FORM SPECIALTIES



Springfield, Ohio, U. S. A.

"Where Your Patronage Is Appreciated" is a four-part form. When a sample material is received, the sample delivery ticket is made out, directed to the individual who is going to make the test, and identifying the material by name and by vendor. This ticket is delivered, with the goods, to the department named in the heading, and is signed by the individual receiving the sample. Copy 3 is returned to the Receiving Department and Copy 4 to the Purchasing Department. The first two copies are retained by the interested department until the tests have been completed.

Upon the conclusion of the test, report is made out, in duplicate on Copies 1 and 2, setting forth the suitability and disposition of the sample. The duplicate report is retained in the departmental files, the original being returned to the Purchasing Department, thus completing the cycle. The Purchasing Agent and the buyers are thus advised of the outcome of the trial and the desirability of the material offered. The test may result in adding a new material or supplier to the company's list, or it may demonstrate that the proposal is not adapted to the company's needs or offers no particular advantage. In either case, there is a definite assurance and record that the vendor's suggestion has been given complete and fair consideration and that the company has not overlooked an opportunity. Whatever the outcome of the trial, the vendor is notified, and the ticket is filed as a matter of record

While it has been noted that most elements of purchasing procedure are carried out by means of appropriate printed forms and established routines, thereby easing the burden of executive attention and clerical work on any regularly recurring situations, this does not apply to the follow-up of deliveries.

It happens that the great majority of orders, about 90%, are placed with outof-town suppliers, and consequently a good deal of importance is attached to the prompt return of the acknowledgement copy of the purchase order, which specifies the date when shipment will be made. Vendors have been educated to an appreciation of the fact that these delivery promises are seriously and literally regarded as a vital element of the order. If no acknowledgement is received within a week or so after the order has been placed, a printed post card follow-up is sent, requesting the shipping information. To this extent it is handled as a routine matter.

But for the purpose of insuring the delivery as promised, or in attempting to improve a promised delivery date, it has been deemed a more effective procedure for the buyer to write a special letter to the vendor, requesting the action desired. By taking such actions definitely out of the routine or "form letter" class, greater attention is secured and better action results.

#### **Vendor Relationships**

Normally all sales contacts are made through the Purchasing Department, but



#### RECEIVING ROOM ANGLE

In considering competitive bids, do you include receiving room costs? Many times they change the entire picture. Receiving, handling, unloading—all increase the net cost. Take the unloading of carload freight, for instance. With many manufacturers' shipments, considerable unnecessary expense is encountered in removing the old type braces.

## ACME Unit-Load PRVCESS KEEPS COSTS DOWN

But with ladings braced with Acme Unit-Load it's another story. They show minimum unloading costs. One snip of each strap and the shipment can be removed easily and quickly. Acme Unit-Load bracing makes both loading and unloading easier, faster, more economical. When you insist that shipments to you must be braced with Acme Unit-Load, you are virtually assured of minimum receiving room costs. Both you and the supplier will benefit. And cartons, boxes, bundles and skid loads that have been Acme Steelstrapped for reinforcement and protection can also be handled and unpacked easily in minimum time at low cost.

#### GET FULL DETAILS

About Acme Strap Purchase Plan

By purchasing Steelstrap on the Acme Strap buying plan you can effect important economies. Mail the coupon for full information. There's no obligation.

ACME STEEL COMPANY
2842 ARCHER AVENUE, CHICAGO, ILL.
Branches and Sales Offices in Principal Cities

ACME STEEL COMPANY 2842 Archer Ave., Chicago, Ill.

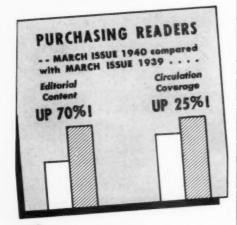
- ☐ Furnish complete information about the Acme Strap Purchase Plan.
- ☐ Mail a copy of "Stopping Profit Leaks," a story of the advantages of Acme Steelstrap.

Name\_\_\_\_\_\_Address

City State

# HAPPENINGS HAPPENINGS PURCHASINGS

HERE is further proof that Conover-Mast is doing a bigger and better job of reaching the vital centralized purchasing departments who can both initiate and consummate industry's orders! . . .



is further proof that manufacturers of industrial equipment and supplies are recognizing the Purchasing Executive's importance—and cultivating him with increased schedules in his only national magazine:



\*Dollar volume for first quarter up 86.9%

Keep the Purchasing Executive on your side through a regular schedule in Purchasing! Full facts from Conover-Mast Corp., 205 E. 42nd St., New York City; Leader Bldg., Cleveland; 333 N. Michigan Ave., Chicago.

# **PURCHASING**

READ BY THE MEN
WHOSE JOB IS BUYING

a liberal policy is observed permitting access to other departments, or to the plant when necessary. There is a regular form of visitor's pass provided for this purpose, an escort is provided, and a record is kept, filed according to companies.

The salesman calling upon this department fills out a slip stating his name, the name and location of his company, and the subject to be discussed. At the head of this card is a reminder: "The Purchasing Agent receives many callers and appreciates the conservation of his time." That simple and courteous request is amply justified by a corresponding recognition of the buyers' responsibility to conserve the salesman's time. Interviews are handled as promptly and expeditiously as possible, and a high standard of performance has been attained in this respect.

Every effort is made to impress the caller with the fact that he has a cordial welcome at Bausch & Lomb, and that the buyer-seller relationship is regarded primarily from the standpoint of a mutuality of interest. One of the extra gestures of thoughtfulness in this direction, which has since been adapted for use in a number of other purchasing departments, was the preparation of a small booklet addressed particularly to the caller from out of town. It contains a message of welcome; a resume of important features regarding the company, its requirements, and its regulations, designed to smooth the way for the salesman making his first approach; and a concise directory to the city of Rochester, useful in making his entire stay in the city easier and more There is much evidence that pleasant. this special consideration and service has been appreciated.

#### Summary

The Purchasing Department at Bausch & Lomb Optical Company has taken its function seriously, not in the sense of self-aggrandizement but in a consistent and conscientious effort to attain a better understanding of the function in its relation to other phases of management and operation and to do a better job in the broader sense of the whole materials problem. The various controls which have been incorporated in the purchasing procedure, as important and integral factors in the routine, have a very definite purpose and are thoroughly coordinated with production, financial and accounting requirements. They are so conceived that the department knows exactly what it is doing at all times, and why. They set up high standards of performance that are a constant incentive to efficient service, for though the procedure is thoroughly organized and standardized it raises that question of "Why?" at every point of decision. That approach to the procurement problem and the resulting record of efficiency and quality standards have contributed in no small measure to the record of technical and commercial progress which has characterized the long and noteworthy history of this company.



#### Flexible BELT LACING

STEEL GRIP is a stronger lacing for all power and conveyor belts. Clinches smoothly into belt, compresses the ends, prevents fraying, 2-piece hinged rocker pins prevent excessive wear. In boxes or long lengths.

Write for Catalog

# Only WIREGRIP Belt Hooks

have the patented blue Aligning Card that holds hooks in position, prevents them from loosening, prevents hook loss from handling, prevents waste of short ends. Every WIREGRIP Hook to the last one can be used.



#### ARMSTRONG-BRAY & CO.

"The Belt Lacing People"

321 N. Loomis St. Chicago, U. S. A.

# PRIZES PREMIUMS GIFTWARES



May we send you our "Jewelry and Cift Book." 640 pages brimful with suggestions in highly diversified lines. Yours on request,

JOSEPH HAGN CO.

223 West Madison St. Chicago, III. WHOLESALERS SINCE 1911

#### Practical Tests for Maintenance Materials

(Continued from page 55)

desks stated that in his fabrication he used "semi steel" so this term was written in the specifications as a substance that might be used. This maker, when bids were taken, was low, his product satisfactory and without question he would have been awarded the contract. Another bidder, however, questioned the metal used in the desks, even going so far as to knock off a





DIESELS
5 TO 1400 H. P.



PUMPS

11/3 G.P.M. TO 150,000 G.P.M.



MOTORS



Fairbanks-Morse

SCALES

.002 OZ. TO 1 MILLION LBS.

• Nearly every industry uses one or more Fairbanks-Morse products, because Fairbanks-Morse makes the right type of Diesel, motor, scale, and pump for each job—and makes each type right. In addition, the centralized responsibility of Fairbanks-Morse, demonstrated to industry through more than a century, simplifies purchasing and protects the purchaser.

7713-EOPSA40.9

### **FAIRBANKS-MORSE**

Pumping, Power, and Weighing Equipment

600 S. Michigan Ave., Chicago, III.

Branches and service stations throughout the United States and Canada.



piece and have it examined in an attempt to show that the so-called "semi steel" was only cast iron. I cite this simply to show to what lengths bidders on public works will go; were this for industry, this bidder would not have dared to question. Suffice to say that P.W.A. authorities upheld our award to the low bidder. This also illustrates again that it is not so much of what equipment is made as its durability that counts.

#### Satisfying the User

In the matter of machinery purchases, public buyers run into awkward and embarrassing situations. Frequently in order to establish the quality range of an item desired, the public buyer will write his specifications around a certain machine and of course specify "or equal." When the low bid comes in on a piece of machinery other than the make specified, it is not always simple procedure for the buyer to determine whether it is or is not the equal of the equipment specified.

In our case we often call in a committee of the using department to sit with the buyer, listen to representatives of the various bidders, and advise with the buyer on the basis of the facts presented. Sometimes if such a committee decided that the low bidder has an equal product the unsuccessful bidder representing the makers of the named and specified machine will be the protestor, claiming that the com-

mittee errs in recognizing his competitor's machine as his equal.

In one such hearing after it had been well established that the low bidder's machine was entirely satisfactory the losing bidder interjected with the comment that it was not equivalent because it lacked fifty pounds in weight. With disgust one of the members of the committee asked "Are we considering buying a shaper or are we buying a piece of cast iron?"

Occasion has arisen when even in the purchase of a machine, a lathe for example, it has been advisable to test the product of two bidders in actual use. This happened only recently and to decide which of two lathes we would purchase (twelve were involved in the contract) both were placed on test in one of our shops and after careful checking for accuracy, speed, smoothness, size of chip, a comprehensive report was made of the two performances and on the basis of this report the Purchasing Agent made his award.

The buyer's problem is the same the country over, to obtain the best the market affords for his needs at the lowest reasonable price. The seller's objective is to acquaint the buyer with the product he sponsors, to point out its merits and to show wherein it has an advantage over what the buyer is at the time using. Specifications and tests are the result of this meeting of minds and are alike of great value to both user and vendor.



Your
Canceled
Checks

This compact group of 100 SAFE-T-STACK Steel Storage Files provides

for over 400,000 cancelled checks.

They are "Tailor-Made" to fit the checks they contain. For this reason they only occupy a space of 861/4 inches high, 465/8 inches wide and 24 inches deep.

The exclusive SAFE-T-STACK slip key locks individual files together horizontally and vertically. No tools, bolts or rivets are used.

Write for a quotation on a SAFE-T-STACK Steel Storage File to fit your check size. No obligation of course.

The Steel Storage File Co., 2216 W. 63rd St., Cleveland, Ohio.

The size of our check is...... inches wide x.....inches high. Please quote on Steel Storage Files to fit.

Name
Business
Address





■ A new compact grinder, which is nicely balanced and designed for both hand and lathe grinding is offered by Stanley Electric Tool Division, New Britain, Conn. With a motor holder, the grinder can be mounted in a lathe, milling machine or shaper for external or internal grinding on dies, punches, machine parts, spiral cutters, etc.

The motor is a 3/8 h.p. direct drive unit mounted on ball bearings and has ample power to drive grinding wheels up to 11/2".

The extended shaft gives a reach of 5" for deep internal grinding and the long spindle housing provides a good grip for hand grinding.

It will accommodate emery wheels, mounted points and rotary files for hundreds of jobs.

#### DIESEL-ELECTRIC GENERATOR

■ A new line of Diesel-electric power plants, ranging in size from 3600 to 24,000 watts and built to a simple, yet revolutionary spacesaving design, is being placed on the market by Lister-Blackstone, Inc., Milwaukee, Wisconsin.

These new plants consist of a radiator cooled engine, generator and control panel, all assembled in compact form, ready to set in place and put to work. Chief change from conventional design is in the placement of the generator.

of the generator, which sets directly underneath the engine and thus cuts floor space requirements almost in half.

Power for generating is supplied by the famous Lister-4-cycle Diesel engine using Bosch fuel system. To assure long engine life, the cylinder walls are chromium impregnated. The patented dual-compression system used makes starting by hand easy under all temperature conditions, without the use of punks, glow plugs, or any other preheating devices, the manufacturers say.



■ In line with their announced policy of offering special abrasive wheels for industry's "problem" jobs, the newly-formed Atlantic Abrasive Corp., South Braintree, Mass., has made available a new type wheel especially designed for weld grinding and snagging.

This wheel makes use of the company's patented synthetic bonding material to permit maximum working speed and pressure without danger of burning.

Use of this wheel will insure both the lowest possible labor cost and a better finished product, according to the manufacturer. Full details on it and other special grinding wheels for steel, alloys, plastics and rubber will be sent on request.

#### INDUSTRIAL TRACTOR



■ Streamlined in harmony with modern design trends and steel turreted to afford complete driver protection, this industrial tractor is offered for the rapid and economical transfer of raw materials, parts and finished goods from one department to another.

Capable of pulling 25 tons on trailers, the machine is so compact in design as to thread crowded aisles easily, pass through narrow doorways, operate on congested platforms. Twin wheels at the bow provide perfect stability, assist the tractor in negotiating rough roadways. The driver sits comfortably and safely within a heavy ½-in. steel body and has clear vision of his load and of his right-of-way.

Power is provided by a Continental Red Seal Motor, making the tractor capable of 24-hour continuous operation. Four gallon gas tank is ample capacity for average day's consumption. The machine has an overall width of 38½ in., 37 in. turning radius, speed of 8 m.p.h. Equipment includes self starter, hydraulic brakes in rear drive wheels, air cushion tires in rear, solid in front, universal couple operated by driver without discounting, all safety features to meet underwriters' inspection departments.

Clark Tructractor Division of Clark Equipment Co., Battle Creek, Mich., also announce a heavier model for use on damp and slippery factory floors and steel ramps and for pushing extra heavy objects into position. It pulls 40 tons on trailers.



Almost a century of experience devoted solely to the advancement and manufacture of bolts, nuts and threaded fastenings. Industry has seen many changes, and with these changes R B & W has continued to pioneer a quality product through newer materials, improved production methods, more skillful workmanship, higher standards of accuracy, finer finish.

Thus, pride of age goes hand in hand with pride in advancement of American industry and the constant development of better R B & W products.

In 1940—our 95th Anniversary—we will continue to help solve the ever-changing problems of threaded fastenings for those who want a broad and tested background of engineering experience, quality-manufacture, and satisfactory service.

R B & W manufactures wide variety of types of Bolts, Nuts, Rivets, Screws, Washers, Rods and Special Upset and Punched Products in various materials and finishes—furnished from large warehouse facilities. Send for catalog and price list.

RUSSELL, BURDSALL & WARD

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It doesn't cost you a penny extra to use Parker-Kalon Socket Screws! And, you get unique protection against any "doubtful" screws . . . screws that might play hob with assembly efficiency, or fail in service.

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#### **ELECTRIC EYE**

The electric eye, a small compact unit, will prevent many accidents. It automatically shuts off the power, stops machinery if a workman should pass beyond the point of safety, whether he is working on a power press, lathe, conveyor belt, exposed switchboard, traveling crane, etc. It will also detect while

crane, etc. It will also detect smoke. The built-in Infra-Red filter produces an invisible ray that will not inter-

fere with the operator or hamper machine operation.

It plugs in a 110-volt circuit. Light beam leaves cabinet from upper lens. Striking mirror, the beam is reflected back to the lower lens where it is focused on the photo-electric cell inside the cabinet. Alarm bell or other devices are plugged into socket on output cord. Switch thrown to right causes alarm to ring until it is shut off, once light beam is broken. When switch is thrown to left alarm rings only while beam is broken, stops ringing when beam is restored. Flange on each side of cabinet permits mounting at any angle in any position. Product of the Safety Engineering Company, New York City.

#### RIVETING HAMMERS

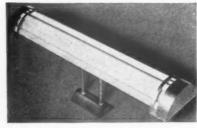
■ A light-weight, air-operated riveting hammer for use in the fabrication of iron, steel and a luminum products, is announced by Ingersoll - Rand Company, Phillipsburg, New Jersey. It is available in two



types: one a short-stroke, fast-hitting model for ordinary use, and the other a long-stroke, slow-hitting machine designed primarily for aluminum, dural or soft iron rivets. Both types can be furnished with either a pistol grip, an offset, or a push button handle.

They can also be adapted for extra light chipping, scaling and calking work when equipped with the proper chisel.

#### LIGHTING UNIT



A complete fluorescent lighting unit for general commercial lighting has been announced by Hygrade Sylvania Corporation, Salem, Mass.

This highly efficient unit comes complete with four 40 watt (48") fluorescent

lamps, and with all wiring and fittings, ready to install. Nothing else to buy.

These commercial units were designed for general use in such locations as stores, offices, showrooms, and a wide range of general commercial applications where higher levels of illumination are desired. In addition to supplying several times as much light, these units supply light that is cooler and better diffused. A choice of daylight or white lamps is offered to users of these units. Where light of daylight quality is desired, Hygrade daylight fluorescent lamps offer the opportunity of obtaining light that is the nearest approach to outdoor daylight yet achieved at moderate cost.



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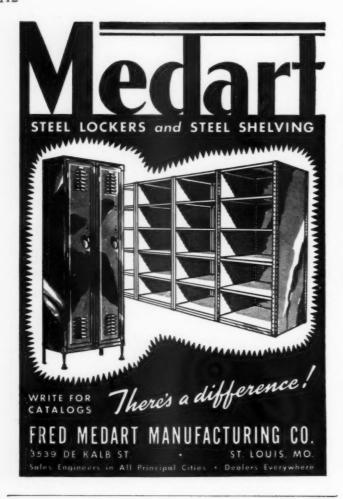
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#### WATCHMAN'S CLOCK



The watchman's clock manufactured by the Simplex Time Recorder Co., Gardner, Massachusetts, gives you positive evidence that he is on the job. The cast aluminum dustproof case is designed for strength, durability and general utility.

The dial mechanism is operated by an eight-day double spring high-grade jeweled movement. It is provided with a 2½" white dial with black Arabic numerals. The

dial carrier is simple in construction and positive in action. It has a knurled knob which may be easily turned for setting

the sheet to the proper position.

Telltale recording mechanism is an ingenious device for recording the time of opening the clock case. It is a plunger type perforator that pierces a hole in the sheet each time the case is opened. It is securely enclosed and is absolutely tamper-proof. The heavy bronze key house frame is a unit entirely separate from the movement and dial carrier. Each clock will accommodate twenty or more stations. The embossing characters on the station keys may be engraved with numbers or letters and are large enough to be clear and easily legible.

#### SPEED INDICATOR

■ This speed indicator manufactured by Herman H. Sticht & Co., Vork. N. Y., is finding increasing application in factories doing high speed grinding and using the latest high speed cutting tools. The best field of application is among manufacturers of tools, roller bearings, ball bearings, automobiles and in the metal industry in general, and to a limited extent in the wood working industry where high speed machines are used.



#### TRANSMISSION WITH SAFETY CONTROL



This special transmission is designed by Lewellen Mfg. Co., Columbus, Ind., to regulate stoker speeds for feeding fuel at rates to maintain the boiler pressure setting automatically. The control attached to the boiler is set for any desired steam pressure. A slight deviation of this pressure will result in a movement of the con-

trol which is connected to the safety lever on the transmission. While the lever follows any rapid motion of the controlling device, speeds are adjusted only at a safe controlling rate of acceleration. Should the lever move suddenly the speed is changed gradually by

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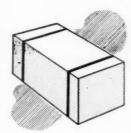
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#### TIME SAVINGS



New Stanley "Ace" Strapping Tool applies strapping in a few seconds. Light . . . weighs only 10 lb., 3 oz. It tightens strapping, feeds its own seals, crimps seals and cuts strapping with two easy, natural motions of the arms. Precision-built to close tolerances throughout. Unlimited take-up. Spring-fed, so it will operate perfectly in any position.

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made easy with "Ace" and new Stanley "Ace" Accessories. They position the tool, container and strapping on roller conveyor or shipping bench for "production" jobs as fast as they come. Regular Stanley Accessories, or a combination, will handle most strapping jobs, or Stanley Engineers will design new ones to fit your needs.

### Write for Folder "TWICE AS FAST" IT'S FREE

New Stanley Folder, "Twice As Fast", describes the new "Ace" Strapping Tool and Accessories, tells how the right combination can be put to work by Stanley Engineers for savings in your shipping room. The Stanley Works, Steel Strapping Division, New Britain, Connecticut.



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seconds after swallowing.



the action of the springs, the speed always coming to the speed corresponding with the position of the control which operates the safety device on the Lewellen transmission.

The control lever does not operate the transmission directly; hence there can be no damage to the control, the transmission nor the stoker, because loading is adjusted for safe regulated

#### BALANCED MONOBLOC PUMP

A balanced monobloc centrifugal pump, wherein the motor and pump have been engineered as an integral unit of balanced functional design in contrast to merely adapting a motor to a pump, has been placed on the market by the Worthington Pump



and Machinery Corporation of Harrison, N. J. This pump is exceptionally compact, requiring a minimum of floor space, yet is provided with ample room for repacking the stuffing box. A shaft of large diameter, on rigid bearing mountings, maintains concentricity in all rotating parts, thereby increasing packing life. The new drip-proof motor features a directed flow of ventilating air which prevents

drawing of moisture into the motor.

#### **BACK PRESSURE VALVES**



Several newly developed back - pressure valves are announced by the Connelly Iron Sponge & Governor Co., Chicago, Illinois.

The type HR back pressure valve features a unique design that permits cleaning by simply removing a cap and withdrawing the

working parts without disturbing the pipe line. Thus, a servicing problem has been greatly simplified. Made in a wide range of sizes and specifications, it is said to be a most unusual and convenient contribution to the field.

Another is known as type HV and features extreme sensitivity and perfect balance for vertical mounting. It is claimed to be so finely balanced that in operation the movable disc, sensitive to a breath, opens and closes positively with the slightest back flow.

#### SMOKE ALARM WITH DENSOMETER

■ Electric eye smoke alarm with densometer at last makes available to power plants photo-electric control of combustion conditions at low cost. This equipment continuously observes the smoke passing through the flue. It indicates the smoke density on a 43/8" dial which reads from zero to one hundred. The equipment is readily set so that a large red signal light indicates when the smoke density exceeds a predetermined value consistent with efficient combustion.



The light source and photoelectric control are mounted on opposite sides of the flue or breaching, and are aligned through simple entrance tubes or windows so that the beam projected from the light source strikes the eye of the control. The densometer may be placed at any convenient location in the boiler room; usually near the other furnace controls-and is wired to the photoelectric control. Made by Photoswitch, Inc., Cambridge, Mass.

### ARMSTRONG WRENCHES FOR ALL PURPOSES! No matter what the purpose, there is

an Armstrong Wrench for every job. More than 100 different types, each in all sizes. Made of finer steels, high carbon or chrome vanadium, heat treated to exact requisites of stiffness and strength . . . . assuring greater strength and longer service

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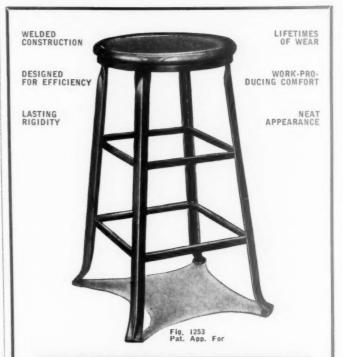
Do you find it hard to believe that many real improvements in packing and shipping methods have been made since your last thorough check? Then now—during April Perfect Shipping month—is the time to look into what's happened. You'll be amazed to learn what Signode research alone has contributed to safer, lower cost packing and shipping...how Signode methods are holding down packing costs and damage claims on everything from 5-pound cartons to carload freight. No matter what you ship or how you ship it, you owe it to your firm and to yourself to get all the facts on what can be done with Signode Tensional Steel Strapping. Find out how Signode can help you make every month a "Perfect Shipping" month.

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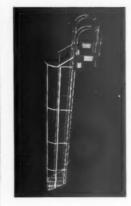
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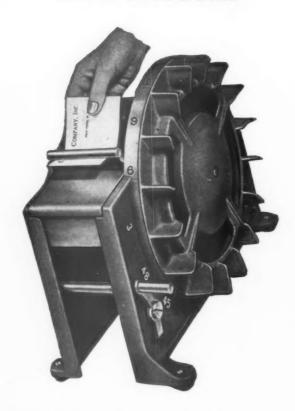


■ An all-aluminum overhanging ladder, for use in making repairs to dams, bridges, buildings, etc., which cannot be reached from the ground, has been developed by the Aluminum Ladder Co., Tarentum, Pennsylvania.

The ladder illustrated was built for the TVA. It is designed to fit over the top of a dam and is held away from the breast of the dam so that workmen can get a good foothold on the rungs in climbing up and down. Wooden wearing blocks are fitted to the top where it comes into contact with concrete. A guardrail, 22" wide by 27" deep, runs from the top to the 22" by 24" platform

which comprises the bottom. Width of the ladder is 22 inches. Weighing only 84 lbs. complete, it can readily be carried along the breast of a dam or other structure; yet it is strong enough to support three or four men with perfect safety.

#### **GUMMED TAPE DISPENSER**



■ The Cummed Tape dispenser with label moistener manufactured by L. Link & Company, Inc., is a general use machine for tape from 1½" to 3" wide and labels up to 3½" wide.

The operation of the machine is simple, fast and quiet. By a turn of the wheel it delivers instantly any predetermined length of tape perfectly moistened and cut at one stroke. The figures on the frame, graduated in inches, assist the operator to determine where to grip the wheel to obtain the desired length.

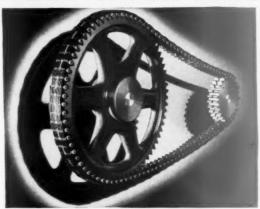
No part can loosen up or get out of order. It has a mechanically operated shear, constructed of the best crucible steel, hardened and ground. This shear is placed in the machine so that it sharpens itself.

The brush moistening device functions under any and all conditions, leaving the ejected tape uniformly and thoroughly moistened. Tape cannot buckle, jam or clog.





### LINK-BELT Silverstreak SILENT CHAIN DRIVE

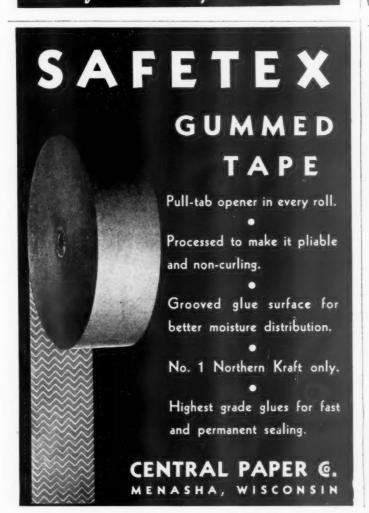


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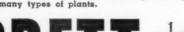
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More than 100 kinds and sizes of dies available for it. The die bosses project far above the face of the tool body



so that chips clear instantly, even the long curls from softsteel bolt stock cannot clog or jam this tool. It is easy to oil the dies, which increases die-life and insures better threads.

Self-centering universal chuck, no loose bushings. Available in ratchet and non-ratchet models. The ideal tool for use with modern electric power units, as well as for hand operation.

A green crackled-finish box, with partitions to hold 12 sets of dies, is available as an accessory. Product of Beaver Pipe Tools, Inc.

#### **ROOM COOLERS**



■ Three sizes of packaged room coolers requiring no plumbing connections, and only a few minutes for installation, are available from the Air Conditioning Department, Westinghouse Electric & Manufacturing Company,

East Springfield, Mass. With capacities of 4,000, 6,000, and 8,500 BTU's per hour, the units are particularly suited for economically cooling executive offices and rooms in homes. All three are powered by hermetically sealed condensing units.

#### How Pet White House Plans Were Blitzkrieged

(Continued from page 40)

with small orders from other departments and can be purchased at substantially lower prices because of the resulting higher volume. It is also quite possible that many hundreds, or thousands of items could be transferred to General Schedules, if small orders were centralized, whereas such economies can not be effected unless centralization is used.

To check the facts of the situation, interviews were arranged so that data was received from many sources in the Treasury Department. Some general con-clusions developed as a result of the interviews. They may be briefly listed.

1. Present decisions appear to have been made upon a legalistic basis rather than upon a background of familiarity with purchasing procedure.

2. The volume of purchases involved, contrary to expectations of many-does not concern a dollar volume substantially larger than those encountered in large industrial corporations and yet the personnel problem is more acute than that encountered in any industrial group.

3. The problem has been complicated by politics. Political pressure may prevent efficiency in governmental buying.

4. Salary ratings are low and out of proportion to those found in some other governmental depart-



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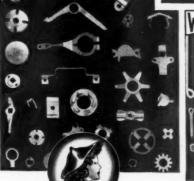
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ments. Minor employees in the N.L.R.B., for example, receive salaries 200% larger than those paid to responsible purchasing executives in the Procurement Division. By comparison, salaries in industry are from 75% to 300% higher for corresponding responsibility in minor purchasing positions.

5. The Federal purchasing studies have not taken

5. The Federal purchasing studies have not taken sufficient serious cognizance of the efficient methods worked out by municipal and state purchasing departments. They could afford to study such examples as that of Russell Forbes of New York City, who has been available for conference.

6. No recognition has been afforded to the work of the N.A.P.A. and in this failure—the natural result has followed. Courses of instruction in scientific purchasing could be introduced—based on N.A.P.A. research—with profitable results to tax

payers.
7. While President Roosevelt has provided the inspiration for centralized purchasing as an idea, he has failed to provide the necessary follow through of the "Know How." This could be easily remedied by bringing in proper consulting advice which could be readily obtained.

#### The P. A. and the Guffey Act

(Continued from page 68)

At present it is just as cheap, if not cheaper, and entails much less managerial difficulties, to purchase coal from outsiders, because the price is so close to the cost of production. However, if the price level is suddenly raised by, say 50 cents a ton, one can readily see what the added cost would be to a user of a half million or more tons of coal per year. If there was any certainty that the price level would remain at these higher rates, it certainly would be expedient to buy suitable coal property and develop it, or buy functioning mines.

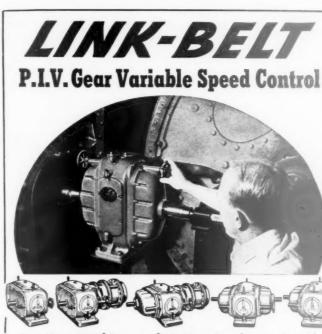
However, as it appears fairly certain that the Act, which expires in 1941, will not be re-enacted, and may be repealed before then, it may be more conservative and expedient to lease mines which are now in opera-This may be done in many places, because to the producer it is a substitute for a long term contract, and would be acceptable also because it would eliminate the supply and demand problems spoken of in the preced-The present producer would be hired on a cost-plus basis, and would thus have a guaranteed market and a fairly steady income. This plan also has the advantage of allowing less financially strong buyers to participate in it, for the capital outlay would be little, if any, and whether the Guffey Act works or not, it is a practical plan, as no operating problems are assumed and the price paid for the coal would not vary much from the normal market price.

#### Substitute Fuels

In many places, at the present time, it is just as cheap or cheaper to burn fuel oil or natural gas. With a decided raise in coal price levels, these competitive fuels will be in a favored position to underbid coal, and the buyer must consider carefully the cost of remodeling equipment to utilize burners fitted to oil and gas. With a long term contract that would justify change in equipment, many companies are already so prepared that they could change at a few hours notice. Therefore, the purchasing agent must consider the sources of supply, prices, etc., of these competitive fuels and be prepared to act, if necessary, when the time comes.







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The buyer who contemplates changing to oil must make certain that he has a long term contract with the oil supplier which will be favorable to him over a period long enough to write off the capital outlay for new equipment. He must also consider the ramifications of such factors as the new Houdry Process of oil refining, and what would happen to oil prices in case of war.

It is said that the Houdry Process may tend to eliminate the necessity of producing industrial fuel oil which is now an unwanted and unprofitable by-product. It follows that the price would rise as the supply decreased

In time of war the government would probably assume control of the oil industry and confiscate all avail-resources for war uses. This likewise would place a premium on fuel oil prices.

Finally, in the pricing of oil, it must be remembered that if the price of oil goes up 20 cents a barrel, this is equivalent to a rise in coal price of nearly a dollar, because five barrels of fuel oil roughly equal one ton of coal. Therefore, it does not take too great a rise in oil prices to make coal the cheaper fuel again, even in spite of the higher cost of coal under the price fixing of the Guffey Act.

#### Three Major Conclusions

The major points that should be remembered in thinking on the subject of the Guffey Act and what it has done, and will do, to the coal buyer, are three in number.

(1) The 30-day contract limitation has reduced actual prices of coal, but the cost, time, and loss through efficiency involved in purchasing and buying new coals makes up for this drop in price. The buyer of coal will, in general, be wise to continue with his old supplier with a gentlemen's agreement that relations will be maintained as long as the supplier's service is satisfactory.

(2) When the fixed prices are finally instigated the buyer of coal will find his hands tied in many ways, and his buying methods will be radically changed. Not only will prices go up, but also the prices will be fixed, thus eliminating any of the present types of competitive bidding. The buyer must study the new price structures to see if he can get a coal which fits his furnace best, and which gives him the most value for his money. Finally, the buyer will not have any assurance of a constant supply, so must make provision to see that he is familiar with several sources of suitable coals, and at the best price which the minimum structure will allow. Freight rates will play an important factor in this regard.

(3) As the Guffey Act is not expected to be reenacted after 1941, the buyer should become acquainted before that time with the functions and policies of the regional sales agencies for marketing coal. These agencies seem to be the one possible solution for a very sick industry, and should also grant benefits of service and proper delivery, etc., to the buyer. They will raise prices to the level where the coal companies can have a decent return on capital. Over a long period of time this is a healthy situation, and the buyer will benefit as the coal industry is able to modernize, and able to give cheaper prices due to efficiencies of operation. If the industry cannot make enough to modernize and replace equipment, prices will tend to go upwards as cost of operations increases. Thus the sales agency will not only be a substitute for impossible legislation, but it will be of benefit to both the producer and the buyer.

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